THE CORRELATION BETWEEN CAREER EXPLORATION AND CAREER CHOICE OF AFRICAN-AMERICAN INNER-CITY MIDDLE SCHOOL STUDENTS

A DISSERTATION

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BY

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ABSTRACT

COUNSELING AND HUMAN DEVELOPMENT

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THE CORRELATION BETWEEN CAREER EXPLORATION AND CAREER CHOICE OF AFRICAN-AMERICAN INNER-CITY MIDDLE SCHOOL STUDENTS

Advisor: Dr. Robert Smothers

Dissertation dated May, 1994

The purpose of this study was to determine if a career education module would enhance the career choices of African-American middle school inner-city students. The students were randomly selected from a school that met all of the fore-mentioned criteria. These students were then divided into two groups (experimental and control). The students were administered the Ohio Career Interest Survey (OCIS) on two separate occasions. Between the two administrations, one group (the experimental group) received a career education module for twelve weeks. The other group (control group) received no type of career education intervention.

After collecting the data, the (132) one-hundred thirty-two items of the Ohio Career Interest Inventory were placed into (12) twelve scales as set forth by the guidelines of the inventory for further analyses and testing

of the hypotheses. The results indicated that there was a statistically significant difference between the mean pre and post-test scores of the experimental and control groups. To further explain, the experimental group's mean post-test scores were significantly higher than the control group's mean post-test scores. This difference was found on all (12) twelve of the scales. Because of these findings, the null hypotheses were rejected. There was a .05 level of statistical significance on each of the scales.

These results indicated that the experimental group's scores increased significantly after receiving the career education module. This further indicated that the students' interest in the careers on each scale increased.

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CHAPTER 1

INTRODUCTION

The anticipation of the 21st century, with its projections of new and changing job demands, has heightened interest in career counseling procedures that will help individuals adapt to expected changes.[1]

As guidance services become interrelated with instruction, their development and management become essential if the benefits of the services are to be extended to all who need them. Guidance and counseling services must be carefully organized and planned to meet the needs of the students.

There has been increasing recognition of the need to assist students in making educational and vocational choices.[2] These choices are, inextricably, interwoven with a person's life style. Today, with industry, education, and social relations so varied and complex, many students have little experience with the environment in which they will endeavor to adjust as students and workers.[3] This is

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[1]V.G. Zunker, Career Counseling Applied Concepts of Life Planning, 3rd ed. (Pacific Grove: Brooks/Cole, 1990), 3.

[2]J.J. Schmidt, Counseling in Schools: Essential Services and Comprehensive Programs (Needham Heights: Allyn and Bacon, 1993), 41.

[3]J.S. Zaccaria, Approaches to Guidance in Contemporary Education (Scranton: International Textbook Company, 1969), 59.

especially true for the African-American inner-city students.

Some writers claim that career choices are predicated upon four factors: (1) genetic endowments and special abilities, (2) environmental conditions and events, (3) learning experiences, and (4) task approach skills.[4]

Based upon the above statement, inner-city adolescents are trapped in a maze that may lead them to failure. It is believed that the inner-city is that portion of a geometric area that houses people in the low socioeconomic class.[5] These are families who are attempting to meet their basic needs. Many of these families are on public assistance. When there is a working parent in the home, it is usually the mother. Often, her job is a menial one.

Frequently, there are no magazines or newspapers in the homes and the family has not travelled outside of the immediate environment. These children have often times, never heard of persons with such titles as a city manager, medical technologist, or architectural drafter.

In short, it is apparent that inner-city adolescents have, for the most part, been taught to, at best, operate

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[4]C.E. Beck, Philosophical Foundations of Guidance (Columbus: Merrill Publishing Company, 1963), 18.

[5]D.C. Locke, "Fostering the Self-Esteem of African-American Children," Elementary School Guidance & Counseling 23 (1989): 254-259.

the machine rather than invent it.[6] It is the awesome task of the school system to change and mold the thinking of these adolescents. One method is career counseling and exploration. The school counselor has an opportunity to introduce a new world of work to these innocent minds. After all, it is a lack of awareness that tends to restrict African-American inner-city adolescents' career choices.

This research involved the middle school population. These were students whose chronological ages ranged from 10 to 14 years. The unique needs of this age group require special attention focused on their physical and social development. Also, it must be remembered that any one who develops a program, devised to address these needs, must be aware of the energy, confusion, and uncertainty that mark these transitional years.[7]

HISTORICAL BACKGROUND

The economy has always dictated the kinds of jobs that would be available at any given period of time; and, by the same token, schools have always adjusted their curricula according to the needs of society. When speaking of economic needs, in reference to job opportunities or training, usually the counselors were in charge of imparting such information to the students within the school system.

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[6]E.C. Glanz, Foundations and Principles of Guidance (Boston: Allyn and Bacon, Inc., 1966), 189.

[7]Schmidt, Counseling in Schools, 120.

Throughout history, the school counseling profession has been closely associated with vocational guidance and career development. The industrial era of the late 1800's rapidly and immensely altered working conditions and vocational needs of society.[8] These changes had a great influence on the early vocational guidance movement.

DEVELOPMENT OF THE MEASUREMENT AND GUIDANCE MOVEMENT

Many persons participated in the measurement and guidance movements. They shared many of the same roots. It is believed that one of the earlier pioneers was Wilheim Wundt who made significant contributions to the measurement movement by his standardization of procedures that became models for developing standardized tests.[9] One writer lists the names of the following persons as others who made great contributions towards the measurement movement:[10]

James M. Cattell was the first used the term mental tests.

Francis Galton devised sensory-discrimination tests as measures of judgement and intelligence.

Alfred Binet and Theophile Simon constructed the first standardized intelligence test.

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[8]Zunker, Career Counseling, 19.

[9]Glanz, Foundations and Principles, 59.

[10]Zunker, Career Counseling, 8-13.

Robert M. Yerkes guided the first group intelligence test which was developed under his directions.

Arthur S. Otis constructed (but not published) an objective item test for group administration. The test was developed for the army and it became known as the Army Alpha and Beta Tests.

Clark L. Hull devised aptitude-test batteries in vocational guidance and emphasized his concept of matching human traits with job requirements.

Edward K. Strong published the first edition of an interest inventory.

It is believed that the federal government has played a very significant role in the career-guidance movement.[11] Some of the relevant national legislative acts passed include:

The Smith-Hughes Act established federal grants for support of a nationwide vocational educational program.[12]

The George Dean Act continued the support of the vocational education movement.[13]

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[11]Beck, Philosophical Foundations, 20-24.

[12]"Smith-Hughes Act," 28th Congress, 2nd Session, U.S. House of Representatives. Report No. 28-558 (Washington, D.C.: U.S. Government Printing Office, 1917).

[13]"George-Dean Act," 47th Congress, 2nd Session, U.S. House of Representatives. Report No. 47-606 (Washington, D.C.: U.S. Government Printing Office, 1936).

The Wagner-Peyser Act established the U.S. Employment Service in response to the Great Depression.[14] **The Civilian Conservation Corps**[15] **and the Works Progress Administration**[16] were also legislative acts designed to provide employment for the masses who could not find jobs during the period after World War II.

In 1939, the first edition of the Dictionary of Occupational Titles was published by the U.S. Employment Service.[17] This was an attempt to address the unemployment problem. It was recognized that there were general needs for more guidance services. Therefore, in 1946, Congress passed the George-Barden Act which provided funds for establishing academic counselor-training programs and provided a more liberal method of distributing funds to states for maintaining vocational guidance programs.[18]

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[14]"Wagner-Peyser Act," 44th Congress, 2nd Session, U.S. House of Representatives. Report No. 44-603 (Washington, D.C.: U.S. Government Printing Office, 1933).

[15]"Civilian Conservation Corps Act," 44th Congress, 2nd Session, U.S. House of Representatives. Report No. 44-509 (Washington, D.C.: U.S. Government Printing Office, 1933).

[16]"Works Progress Administration Act," 46th Congress, 2nd Session, U.S. House of Representatives. Report No. 46-605 (Washington, D.C.: U.S. Government Printing Office, 1935).

[17]The Dictionary of Occupational Titles, 1st ed. (Washington: U.S. Employment Service, 1939).

[18]"George-Barden Act," 42nd Congress, 2nd Session, U.S. House of Representatives. Report No. 42-602 (Washington, D.C.: U.S. Government Printing Office, 1958).

The writer thinks that the passage of the National Defense Educational Act, in 1958, greatly influenced the career and guidance movement and it had a significant impact on the testing movement.[19] This act emphasized the close relationship between the career and guidance movement and testing. The primary purpose of this act was to identify students of outstanding abilities and aptitudes early in their public secondary schools and provide counseling programs designed to help them make the best use of their talents. The specific use of tests, mandated by this act, significantly increased the opportunities to incorporate tests into public school counseling programs. Federal funds were made available to educational institutions and state departments of education.[20]

Finally, the Carl D. Perkins Vocational and Applied Technology Educational Act was passed. This was an attempt to make the United States more competitive in the world economy by more fully developing the academic and occupational skills of all segments of the population.[21]

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[19]"National Defense Educational Act," 42nd Congress, 2nd Session, U.S. House of Representatives. Report No. 42-649 (Washington, D.C.: U.S. Government Printing Office, 1958).

[20]L.S. Hanson, Career Guidance Practices in School and Community (Washington, D.C.: National Vocational Guidance Association, 1970), 31.

[21]"Carl D. Perkins Vocational and Applied Technology Educational Act Amendments," 101st Congress, 2nd Session, U.S. House of Representatives. Report No. 101-660 (Washington, D.C.: U.S. Government Printing Office, 1990).

The career or vocational guidance movement has been unstable. At the end of the 1950's, the career guidance movement had strongly organized manifestations but, the 1960's were very difficult times for the career guidance movement. However, in the last 10 to 15 years, the role of the career guidance movement has been broadened.[22]

It is likely that the future use of assessment results in career counseling will be greatly influenced by advancements in technology. However, the use of assessment results should not dominate the decision-making process in career and guidance.[23]

STATEMENT OF THE PROBLEM

This researcher attempted to assist a group of African-American inner-city adolescents in becoming better informed about job opportunities through career exploration and awareness. It is hoped that this study had a positive impact on their future career choices.

More inner-city African-American adolescents find themselves caught in the "dead-end" syndrome. These students are employed in less satisfying jobs because they lack knowledge and exposure to other existing careers. Frequently, these inner-city dwellers make choices that are

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[22]Picchioni, A.P. and E.C. Bonk, A Comprehensive History of Guidance in the United States (Austin: Texas Personnel and Guidance Association, 1983), 33-35.

[23]R.H. Hall, "Theoretical Trends in the Sociology of Occupations," Sociological Quarterly 24 (1983): 5-23.

not meaningful or challenging. However, these were the only jobs of which they sought. This lack of knowledge is usually due to unawareness and perhaps learned helplessness.

Many times, school personnel, including administrators, counselors, and teachers, represent the only stable and significant persons in the lives of the inner-city youths. For these students, the school may be an appropriate setting, if not the only setting, for providing help.[24] Gone are the days when communities consisted of adults in all walks of life. In other words, it was very common to see the ministers, teachers, business persons, and common or domestic laborers living in the same community.

Today, most professional or "white-collar" workers tend to live in the suburbs. As a result, the inner-city students see few "upper-class" role models in their community.

This lack of career awareness negatively effects the students and our economical system. One writer, in a paper presented at the Annual Conference of the Association of Computer-Based Systems for Career Information, stated that some economic consequences which have resulted from our neglect of career development are as follows: astronomical costs associated with lost productivity, wasted recruiting and training investments, lost productivity due to workers'

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[24]G. Bottoms, "Closing the Gap," Vocational Educational Journal 64, No. 8 (1992): 26.

dissatisfaction with chosen careers, and other spin-offs of career indecisiveness.[25]

Although this writer could not cite evidence, "unequivocally", that there is a cause-effect relationship between our career development practices and the foregoing economic conditions, the fact remains that our overall career development focus is very closely related to our nation's economic health.

PURPOSE

The purpose of this study was to investigate the effect(s), that a career counseling module would have on the career awareness of a sample of inner-city African-American middle school students.

RESEARCH QUESTIONS

During the formulation of this study, the writer sought answers to the following research questions:

1. Is there a statistically significant difference between the mean pre-test and post-test scores of the participants in the experimental and control groups of this study?
2. Is there a statistically significant correlation between the pre-test and post-test scores of the experimental and control groups of subjects?

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[25]P.S. Jarvis, "A Nation at Risk: The Economic Consequences of Neglecting Career Development," A Paper Presented at the Annual Conference of the Association of Computer-Based Systems for Career Information. (December 1988).

RESEARCH HYPOTHESES

To achieve the purpose of this study, the writer tested the following hypotheses:

Ho1. There will be no statistically significant difference between the mean pre- and post-test scores of the subjects in the experimental group.

Ho2. There will be no statistically significant difference between the mean pre- and post-test scores of the subjects in the control group.

Ho3. There will be no statistically significant difference between the students' mean pre-test scores of the experimental and control groups.

Ho4. There will be no statistically significant difference between the mean post-test scores of the students in the experimental and control groups.

SIGNIFICANCE OF RESEARCH

According to one writer, counselors need to realize that African-American students have culturally different needs.[26] With this in mind, this investigation will be used to devise and implement a program for enhancing career awareness in African-American middle school students. This investigation is expected to provide useful information to boards of education, school officials, teachers, counselors,

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[26]Locke, Elementary School Guidance, 245.

and parents who must join forces in helping to bring about a productive individual.

In the past 160 years, American education has changed its focus from preparing students to live a religious and moral life to preparing them for work.[27] As a result, principals, teachers, and counselors can attend workshops on career awareness for students and boards of education can make policies that mandate the teaching of career education on the middle school level to prepare all students for work.

ASSUMPTIONS

The writer assured the following assumptions in conducting this investigation after pilot testing the instrument used in this research:

1. That the subjects' reading abilities were adequate for them to correctly read the test items and correctly interpret their meanings.
2. That the subjects honestly responded to the items in the instrument.
3. The testing conditions were the same for all participants.
4. The Ohio Career Interest Survey was a valid indicator of the individual student's career choice or interest.
5. Each student would attend every session included in the research.
6. Each student would use the information acquired through the sessions and would apply it when preparing to choose a career.

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[27]C.H. Persell, Education and Inequality (New York: The Press Press, 1977), 108.

LIMITATIONS

In conducting this investigation, the writer recognized the following limitations:

1. The researcher could not be certain that all participants of the experimental group would not discuss any of the career education sessions with any participants of the control group.

2. The sample could not be matched, according to chronological age, because of the limited number of persons whose chronological ages were similar.

3. Subjects could not be selected, according to similarities in their socioeconomic status, because the range was quite broad and population was quite limited.

4. Subjects could not be selected, according to similarities in their experimental backgrounds, because the population was limited.

5. The findings from this study were limited to African-American, low socioeconomic middle school students; and may not be applicable to other populations.

DEFINITION OF TERMS

The following terms will reflect these meanings when used in this research:

1. **Adolescence** is the period from the onset of puberty until the beginning of adulthood.[28]

2. **African-American** is an American of African descent. Other names used are Black and Afro-American.

3. **Career Exploration** is becoming knowledgeable of jobs, job opportunities that are available, and; subsequently, learning more about one's skills; interests; and values.

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[28]R.J. Havighurst, Human Development and Education (New York: Longmans, Green, 1953), 41.

4. **Career Development** is a lifelong process of developing beliefs and values, skills and aptitudes, interests, personality characteristics, and knowledge of the world of work.[29]

5. **Career** is a profession for which one trains and usually undertakes as a permanent calling.

6. **Dictionary of Occupational Titles (DOT)** is an occupational classification system developed by the Department of Labor.[30]

7. **Inner-city** is the usually older and more densely populated central section of a city.

8. **Low Socioeconomic** means students who, according to federal income guidelines, are eligible to participate in the free or reduced lunch program.

9. **Middle School** indicates that branch of formal education that involves grades six (6), seven (7), and eight (8).

10. **Participants** are students who participated in this study.

11. **Investigation** is an experimental study aimed at the discovery and interpretation of data.

12. **Vocational Guidance Movement** is an organization that was founded in order to help people choose careers.[31]

In summary chapter one has presented an introduction to the problem which included the historical background, research questions, and hypotheses. Also, a discussion of the purpose of the research and its significance was included. As in research, certain assumptions, limitations,

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[29]E.L. Tolbert, Counseling for Career Development (Boston: Houghton Mifflin, 1974), 29.

[30]Zunker, Career Counseling, 125.

[31]Ibid., 13.

and definitions must be addressed. This researcher attempted to discuss all of the above in an effort to better inform the reader of this writer's intentions.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Several years ago, former United States Office of Education Commissioner, Sidney P. Marland, coined the term "career education". Since that time, there has been an outburst of grants and legislation in efforts of providing career education programs. Many authors stated that the term "vocational education" was replaced with the term "career education". Therefore, for the purpose of this research, "vocational education" and "career education" will be used interchangeably.

In this chapter the writer will attempt to review the literature by first discussing the theoretical framework on which the research was based. Next, related theories, program models, implementation of programs, related studies and the career education program model of the school that was chosen for this study will be discussed.

THEORETICAL FRAMEWORK

Theories of career development have, generally, been approached from the following points of view:

1. **Developmental Approach**

   Development approach theories, generally, view the selection of a career as one continuous process, i.e., from birth to death where changes occur as the individual progresses through the life span. How well one progresses depends, generally, on his or

her ability to adapt and adjust to existing situations. The ability to adapt or adjust is also influenced by a host of other factors.

2. Social Learning Approach

This approach is an attempt to simplify the process of career selection, based on life events, that is influential in determining career selection. This approach involves the following four factors:

A. Genetic endowments and special abilities are present at birth and believed to be passed on from parents to offsprings.

B. Environmental conditions and events may influence individual development.

C. Learning experiences involve instrumental learning experiences. These are experiences where individuals learn through interaction to events or direct observations of results and actions. Associative learning experiences include both positive and negative reactions to pairs of previously neutral situations.

D. Task approach skills occur when the individual develops certain skills such as problem solving skills, work-habits which enable the individual to solve that task they might be facing.

3. Trait-Factor Approach

This approach is accomplished first by studying the individual in order to have some knowledge of his or her interests and abilities. This is followed by a survey of many occupations in the work world; and, finally, matched with the individual's particular interest.

4. **Needs Approach**

The main focus here has been the early relationships within the family and their subsequent effects on career directions. It, therefore, classifies occupations into two major categories:

A. **Person-Oriented Occupations.** These occupations involve working directly with the public, e.g., service (concern for others) and business (Person to person contact).

B. **Nonperson-Oriented Occupations.** These occupations do not involve working directly with the public, e.g., technology (production, transportation), outdoor (agriculture, mining), and science (scientific applications).

The selection of an occupational category is a primary function of the individual's need structure; but the level of attainment of a higher level within

that category depends on the person's abilities and socioeconomic background.[32]

PRIMARY THEORY OF RESEARCH/ SUPER'S DEVELOPMENTAL THEORY

Interest in career guidance has really increased over the past decade. This increase is so rapidly evolving that numerous classes and workshops have been added to curricula. These classes are predicated on the great theorists of career development. Among these theorists is Donald Edwin Super. Super has written various books on careers and life styles. Also, he has attempted to explain the nature of work and why certain people aspire to certain occupations. Consequently, this study was based on Super's Developmental Theory.

It has been stated that work is viewed as a common place activity that many individuals usually take for granted. Because of this laxity, people are constantly plagued by problems related to their occupations. Also, because society is becoming aware that fitting into the proper work environment is very important, more career planning has been placed into the school curricula.[33] Society is moving towards trying to prevent problems rather than trying to solve problems. This can only be done by

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[32]Brown, D. and L. Brooks, Career Choice and Development (San Francisco: Jossey-Bass, 1984), 108.

[33]Zunker, Career Counseling, 20.

making the adolescent aware of the different occupations and educational backgrounds needed. This awareness is made known early in life. It is understandable that individuals will change their minds several times before actually settling into a career. However, knowing more about a career and what is involved would help strengthen the career decision.

Donald Super is a giant in the field of careers. One of his main attributes is the forming of career patterns and life stages. This means nothing more than the sequence of occupations in the life of an individual. Super's approach to dealing with occupations is a developmental approach. He advocates that the process of development is marked by progressive increases and modifications of the individual's behavioral repertoire.[34]

Super's theory takes the approach that, in order for one to attain heights or reach certain goals in the job market, one has to go through stages or steps. How an individual feels about himself or herself is also a very key variable in Super's theory. Super believes that the self-concept is vital to vocational behavior. Also, tasks are very important to Super. He developed certain tasks for each developmental stage. The completion of these tasks can cause an individual to mature. An unsuccessful completion

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[34]D.E. Super, Appraising Vocational Fitness (New York: Harper & Brothers, 1949), 150.

of a task would cause an individual to remain at a certain level. If an individual chose to attempt to move to the next stage, before successfully completing the prior stage, the individual would encounter problems and instability on the job and in life.[35]

1. **VOCATIONAL DEVELOPMENTAL STAGES**

As stated earlier, Super's main thrust was the formalization of vocational developmental stages. These stages are outlined and explained below:

A. **Growth Stage (Birth - 14).** Self-concept develops through identification with key figures in family and school. Needs and fantasies are dominant early in this stage. Interest and capacity become more important in this stage with increasing social participation and reality-testing. Substages of the growth stage are:

Fantasy (4-10). Needs are dominant; role-playing in fantasy is important.

Interest (11-12). Likes are the major determinants of aspirations and activities.

Capacity (13-14). Abilities are given more weight, and job requirements (including training) are considered.

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[35]**D.E. Super, "Vocational Development Theory: Persons, Positions, and Processes." In J.M. Whiteley and A. Resnikoff, Perspectives on Vocational Development, eds. (Washington, D.C.: American Personnel and Guidance Association, 1972), 94-96.**

B. **Exploration Stage (Age 15-24).** Self-examination, role tryouts, and occupational exploration take place in school, leisure activities, and part-time work. Substages of the exploration stage are:

Tentative (15-17). Needs, interests, capacities, values, and opportunities are all considered. Tentative choices are made and tried out in fantasy, discussion, courses, work, etc.

Transition (18-21). Reality considerations are given more weight as the youth enters labor market or professional training and attempts to implement a self-concept.

Trial (22-24). A seemingly appropriate field having been located, a beginning job in it is found and is tried out as a life work.

C. **Establishment Stage (Age 25-44).** Having found an appropriate field, effort is put forth to make a permanent place in it. There may be some trial early in this stage, with consequent shifting, but establishment may begin without trial, especially in the professions. Substages of the establishment stage are:

Trial (25-30). The field of work presumed to be suitable may prove unsatisfactory, resulting in one or two changes before the life work is

found or before it becomes clear that the life work will be a succession of unrelated jobs.

Stabilization (31-44). As the career pattern becomes clear, effort is put forth to stabilize and make a secure place in the world of work. For most persons these are the creative years.

D. **Maintenance Stage (Age 45-64).** Having made a place in the world of work, the concern is now to hold it. Little new ground is broken, but there is continuation along established lines.

E. **Decline Stage (Age 65 on).** As physical and mental powers decline, work activities change and in due course cease. New roles must be developed. First the selective participant and then the observer rather than participant. Substages of this stage are:

Deceleration (65-70). Sometimes at the time of official retirement, sometimes late in the maintenance stage, the pace of work slackens, duties are shifted, or the nature of the work is changed to suit declining capacities. Many men find part-time jobs to replace their full-time occupations.

Retirement (71 on). As with all the specified age limits, there are great variations from person to person. But, complete cessation of

> occupation comes for all in due course. To some easily and pleasantly, to others with difficulty and disappointment, and to some only with death.

2. VOCATIONAL DEVELOPMENTAL TASKS

Also, Super developed five Vocational Developmental Tasks. These tasks served as the foundation for the Vocational Developmental Stages that were aforementioned. These tasks may occur at different age levels. However, the following age groups are the most common for the given task.

The first task is crystallization (ages 14-18). At this point, individuals are cognitively involved with learning about vocations that meet their values, needs, and interests. The next task is specification (ages 18-21). This task emphasizes the individual's ability to narrow down his or her choices. The third task which is implementation which (ages 21-24) allows one to put a plan of action into being. All the pertinent facts have been gathered and a decision or choice of careers has been made. Now the individual is beginning to take the necessary training or requirements for the chosen career. The fourth task is stabilization (ages 24-35). At this point the individual is settled into the career of his or her choice. The individual is established and feeling a sense of security. The fifth task is consolidation (ages 35 +). During this final task, one attains advancement and seniority.

3. CAREER MATURITY CONCEPTS FOR ADOLESCENTS

It is generally believed that adolescence covers that period from ages 12-17. During this time, Super has indicated that there are six stages that the adolescent goes through as far as being introduced to careers are concerned. The six stages or dimensions are:

A. **Orientation to vocational choice.** The student, who is in middle or junior high school, is introduced to different careers by such means as career days, career fairs, computerized information systems, and other varied methods.

B. **Information and Planning.** The student is involved more with the computerized career system as well as individual and group guidance concerning careers. Here the student goes more in depth into certain careers of his or her choice.

C. **Consistency of vocational preferences.** The student will be given different aptitude tests at different points of his or her high school tenure. Some may begin as early as eighth grade. These tests should virtually yield or predict the same or very similar outcomes or choices. When administering the different tests, consistency is the main factor that is observed. Also, the counselor listens for consistency when talking to the student about the results of the various tests.

D. **Crystallization of traits.** The high school student is usually in the tenth grade and is moving towards understanding what is important to him or her in selecting a career choice.

E. **Vocational Independence.** The high school student (who is usually an eleventh grader) is now beginning to develop empirical involvement in the work world. This can be done through the vocational programs at school or the student may seek employment after school on his or her own.

F. **Wisdom and Vocational Preference.** The student, who is about to enter the adult world, has now developed the ability to distinguish fact from fantasy in the career market. He or she is able to match his or her preferences with abilities and capabilities.[36]

4. THEORY INTERPRETATION

Super's developmental theory is predicated on moving from one stage to another. It does not adhere to skipping steps. One may reach a step at an earlier or later age. It is advocated that each step prepares the individual for the next goal. Many individuals have been known to have problems in the work world because of stages not fully completed earlier in life.

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[36]D.E. Super, "A Life-Span, Life-Space Approach to Career Development," Journal of Vocational Behavior 16 (1980): 282-298.

Also, the theory emphasizes knowing one's self and abilities. The way an individual feels or views himself or herself is very important in choosing a career. If one lacks self-fulfillment, he lacks the ability to be satisfied in the job market.[37] Knowing the self is important to the total well being of the individual. It relates to physical and mental capabilities. Super noted this importance and included it in his theory.

ADDITIONAL THEORIES RELATED TO RESEARCH

The following theories could have possibly had general implications for this study. They have been included to present a comprehensive review of career development theories that were related to the problem of this study. It must be noted that many of the career development theories contain developmental stages that are related to one another in terms of age range and career decision-making tasks related to these stages.

1. HOLLAND'S TYPOLOGY THEORY

Holland's theory greatly emphasizes the personality. This theory of vocational behavior, which is generally referred to as Theory of Typology, is a combination of two schools of thought in vocational psychology. The first hypothesis states that career choices represent extensions of an individual's personality. Individuals make efforts to

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[37]D. Super, The Psychology of Careers (New York: Harper & Row Publishers, 1957), 70.

infuse broad personal behavioral styles into their work choices or their work environments in which they would like to see themselves working.

The other hypothesis, made by Holland, is that people project views of themselves and their work environment into occupational titles. By allowing people to express themselves freely in terms of likes or dislikes of job or job titles, Holland was able to classify people into different categories of personality styles, which had theoretical implications of personality and vocational job choices.[38] Simply stated, the major influencing factor, in vocational, career, or occupational choices, is the individual's types in relation to the environment in which he or she would want to work.

These occupational environments are:

A. **Realistic** - An individual with this personality type could possibly seek a career as a farmer or truck driver.

B. **Investigative** - An individual with this personality type could possibly seek a career as a chemist or biologist.

C. **Social** - An individual with this personality type could possibly seek a career as a social worker or teacher.

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[38]J.L. Holland, The Psychology of Vocational Choice (Waltham, MA: Blaisdell, 1966), 41.

D. **Conventional** - An individual with this personality type could possibly seek a career as a bookkeeper or bank teller.

E. **Enterprising** - An individual with this personality type could possibly seek a career as a salesperson or politician.

F. **Artistic** - An individual with this personality type could possibly seek a career as a musician or artist.

2. ROE'S NEEDS THEORY

Ann Roe's Theory focuses on early relationships within the family and its subsequent effects on career choices. She looked at personality, intelligence, and background as they relate to career choices. Roe stated that the selection of an occupational category was primarily a function of the individual's need but the level of attainment within the category was more dependent upon the individual's level of ability and socioeconomic background.[39] The climate of the relationship between child and parent is the main generating force of needs, interests, and attitudes that are later reflected in vocational choice.

Roe drew heavily from Maslow's hierarchy of needs in developing her theory. She determined that the need

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[39]A. Roe, The Psychology of Occupations (New York: Wiley, 1956), 40.

structure of an individual would be influenced by early childhood frustrations and satisfactions. Roe further theorized that children reared by warm and loving parents would become adults who enjoyed being around people and would probably seek employment that would cater to this. On the other hand, children who were reared by cold or mean parents would seek careers that would take them away from interacting with others.

Roe postulated that environmental experiences, child-parent relationships, and genetic features determined the development of a need-structure. She further stated that an occupational choice involved choosing careers that were person-oriented or non-person oriented.[40]

CAREER DEVELOPMENT AND CAREER EDUCATION

This section of the literature review will examine the career exploration component and other components of the overall education model, as they interrelate with the career development and career maturation process.

The need for career development programs or the more contemporary term, career education, has evolved into a crisis of societal values. Venn spoke of changes in society. He said:

> The changes that have occurred in society and the home have created a situation which has made our youth economic liabilities instead of economic assets. These same changes

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[40]Ibid., 47.

> have caused our youth to become isolated from adults, work, and most activity that makes a difference in the quality of life or the welfare of the community. In short, we have, without intention, created a society where many of our youth have lost worth and dignity and, thus, find few ways by which they can make the transition from youth to adulthood; from dependency to independence; from school to work; or from being unnecessary to becoming necessary.[41]

Certainly, such an endeavor will not be as simple as a new course in the school curricula, nor will there be any expedient panacea to this most complex societal dilemma. However, many educators with futuristic vision have devised possible solutions in contemporary models of career education.

PROGRAM MODELS

In 1976, Winn presented three basic program models to career exploration; any one of which could be used in any educational setting. They were as follows: (1) the comprehensive model, (2) the limited model, and (3) the infusion model.[42]

The comprehensive model treated career exploration like every other basic subject and was required of all students

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[41]G. Venn, "Models of Career Education Work Experience and Job Placement Programs." Paper Presented at the Career Education National Forum, Held at the Center for Vocational Education. Career Education Institute (Atlanta: Georgia State University), 5.

[42]F. Winn, Career Exploration in Schools (Columbus: Bell & Howell Company, 1976), 54.

at the sixth, seventh, eighth, ninth, or tenth grade level. It could span either a semester or several grades. The advantages of this model were: (1) program prominence, (2) wide exposure for the student's career explorations, and (3) simplicity of administration. Essentially, the Program of Education and Career Exploration (PECE), in Georgia, exemplified this type of model.

This PECE model was presented by Dagley and Hartley in a program development guide entitled Career Guidance in Georgia. Their program guide was a comprehensive model which addressed the total career development effort in Georgia. Of particular interest was the suggestion for PECE at grades seven through nine. Their efforts may represent a complete model of the best program designs for a comprehensive career development and/or career education program.[43]

The limited model treated career exploration as a self-contained minor subject, usually continuing either a full year, a semester, or a quarter. The subject was often classified as a "mini-course." The advantages of this model were: (1) simplicity of scheduling, (2) flexibility when facilities were less than ideal, and (3) allowances for a

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[43]C. Dagley and W. Hartley, Career Guidance in Georgia (Atlanta: Division of Curriculum Development and Pupil Personnel Services, 1976), 23.

high degree of independent study and self-determination for the students.[44]

The infusion model was a segmented approach, paralleling one or more occupational clusters. Each segment could be fused into its logical place in the curricula. The advantages of this model were: (1) it required minimum faculty adjustments and (2) it provided a means of varying and enlivening the traditional classroom study.[45]

The Pennsylvania State Department of Public Instruction conducted a study concerning the vocational readiness of technical high school students, using the Vocational Development Inventory.[46] They proposed the following curricula revisions: (1) broad exploratory opportunities in junior high school, (2) narrow exploration in the first year cluster programs, and (3) specialized preparation during the remaining high school and post high school years.[47]

IMPLEMENTATION OF CAREER/VOCATIONAL PROGRAMS IN SCHOOLS

Although several laws have been passed in an attempt to install and/or enhance career/vocational education programs,

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[44]Winn, Career Exploration, 56.

[45]Ibid., 57.

[46]J.O. Crites, "Measurement of Vocational Maturity in Adolescence I: Attitude Test of the Vocational Development Inventory," Psychological Monographs 79, No. 2 (1965), 595.

[47]Pennsylvania Department of Education, "The Vocational Readiness of Technical High School Students" (Philadelphia: Education Department, 1969), 5.

these programs can only be as effective as the attitudes of school superintendents, administrators, and board of education members. Roodssari did a study that examined attitudes of school administrators and board of education members toward vocational education programs at the secondary level in Denton county of North Texas.[48] These researchers administered a questionnaire by mail to sixty-six school administrators and seventy-seven board members. Eighty-four percent completed and returned the questionnaires.

The statistical treatment of the data was placed in five categories: economic, evaluation, responsibility, role, and value factors. The results of this study, therefore, indicated that both administrators and board of education members viewed the need for vocational or career education as a top priority in the school system.

Matthews did a research study that involved the attitudes of public school superintendents in Kentucky toward vocational education.[49] The instrument used was the Image of Vocational Education Scale which had an internal

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[48]M.R. Roodssari, "A Study of Attitudes of School Administrators and Board of Education Members Toward the Vocational Education Programs in North Texas," Dissertation Abstracts International 41, No. 8 (1980): 3547A.

[49]E. Matthews, "Attitudes of Public School Superintendents in Kentucky Toward Vocational Education at the High School Level," Dissertation Abstracts International 40, No. 7 (1987): 1751 A.

reliability of 0.91. One hundred seventy-four (97.7%) data collection instruments were completed and returned.

The Pearson correlation coefficient, t-tests, cross-tabulations, and Chi square were used to determine the following results:

> A group median score of 105 was revealed by the data analysis which allowed the hypothesis to be accepted. The hypothesis stated that the public school superintendents in Kentucky would have a favorable attitude toward vocational education. An interesting note was that the research revealed a positive trend between the attitude scores and the size of the respondents' school districts. It appears that the mean of the favorable attitude towards vocational education increased as the size of the school district increased.

In another study the state of Wisconsin, in 1986, passed legislation entitled Education for Employment for all school districts.[50] This legislation declared that a program would be devised to create the finest, best educated, and most skilled work force in America. The author of this study reviewed the implementation of this program to see if it was working. His findings reveal that, in order for this mandate to work, the superintendent must

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[50]T.G. Antioho, "Youth Employability: A Southern Wisconsin Mode of Education for Employment," Masters Abstracts International 31, No. 1 (1992): 70A.

champion the cause and be, personally, committed to the implementation of this program.

RELATED RESEARCH STUDIES

In an attempt to investigate the factors underlying the uncertainty of career choice among secondary school students, several research studies have been done. Among them is research by Jacobus that emphasized the actual opportunities of young people in relations to career choice.[51] Also, special attention was given to the family and school. Consequently, it was found that all of the above were high contributors to the students' career uncertainties. It seems that, from these outcomes, career choice uncertainties can be attributed to multi-factorial conditions which alluded to such primary factors as innate abilities. Also, there are secondary factors, such as the environment and how the students get along with themselves and others.

McNair studied the relationship between self-concept, parental influence, socioeconomic status, degree of certainty, sex, and race to the levels of career maturity, occupational aspiration, and occupational expectations of

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[51]J. Jacobus, "An Investigation into Factor Underlying Career Choice Uncertainty of Secondary School Pupils, Dissertation Abstracts International 48, No. 7 (1986): 1658A

tenth grade students.[52] The demographics of the study include:

1. Two hundred fifty-nine (259) tenth graders, (one hundred thirty-four (134) females, and one hundred twenty-five (125) male, ninety-two (92) black, and one hundred sixty-seven (167) white).
2. School location was a county school system in the central section of North Carolina.
3. Total school population sixty-five (65) percent white, thirty-four (34) percent black, and one (1) percent other.

The students were administered the Tennessee Self-Concept Scale and the Career Maturity Inventory. The following results were determined.

1. Group membership (sex and race) had a significant effect on the career maturity and occupational expectation scores. The highest scores were found among white males. Next, in order were the white females, black females, black males.
2. The best set of predictors of career maturity and occupational expectation for all groups was parental influence and self-concept.

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[52]D. McNair, "A Multiple Regression Analysis Using Self-Concept, Parental Influence, Socioeconomic Status, Degree of Certainty, Race, and Sex to Predict Career Maturity, Occupational Aspirations, and Occupational Expectations," Dissertation Abstracts International 41, No. 8 (1980): 3428A.

3. Parental influence and socioeconomic status had influences on all groups.
4. The variables, self-concept and degree of certainty, did not significantly increase in the occupational aspirations of the students.

The research by Ford-Richards was done to determine whether any differences existed between Blacks and Whites in occupational interests; and, if so, can these differences be accounted for because of gender, age, or education.[53] The sample consisted of 536 whites and 84 Blacks ranging in age from 15 to 49 years. Of the white subjects, 178 were males and 358 were females. Of the black subjects, 28 were males and 56 were females.

A multivariate analysis of variance (MANOVA) design was used for this study. No statistically significant multivariate interactions were observed between Race, Gender, Age, or Education. Standard scores were significantly higher for White Americans than for Black Americans on the Realistic and Investigative General Occupational Themes (GOT). Scores for Black Americans were significantly higher than those for whites on the Enterprising and Conventional GOTs. The researcher indicated that these results, for the GOT standard scores,

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[53]J.M. Ford-Richards, "A Comparison of the General Occupational Themes Scores of Black Americans and White Americans and the Strong Interest Inventory," Dissertation Abstracts International 53, No. 4 (1992): 1054 A.

indicate that there is a need for the development of norms for black subjects on the Strong Interest Inventory. Also, this could indicate a need for the examining and developing of Blacks early in career awareness.

McGuire investigated the problems of career awareness by studying the effects of an Occupational Intervention Program (OIP) with sixth grade students' attitudes and competencies in career choice as measured by the Crites' Career Maturity Inventory (CMI).[54] The sample consisted of 404 sixth grade students that were divided in the following groups:

1. 129 students - that experienced Technology for children multi-media "hands-on type program (comparison group).
2. 144 students - that experienced an OIP, a program that involved speakers and field trips that related to different occupations (Treatment group).
3. 131 students - that experienced no forms of career education (control group).

Pre-tests and post-tests were administered and the results indicated that the comparison group had an increase in attitude score which was significantly greater than the

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[54]L.S. McGuire, "An Occupational Intervention Program and the Technology for Children Program: A Study of Career Choice Attitudes and Competencies of Sixth Grade Students," Dissertation Abstracts International 40, No. 7 (1979): 3987 A.

control group (.031 level) and the treatment group (.051 level) respectively. No statistically significant differences, in the amount of improvement in scores representing competencies about careers, were achieved between the groups. Although there was an increase in the scores between the pre- and post-test scores for each group, the gains were not statistically significantly different. On the sub-tests of the CMI, the treatment group's improvement was statistically significantly greater than the comparison group in Sub-Test III, choosing a Job.

Vornholt conducted a study to determine the occupational knowledge of ninth and twelfth grade students who were enrolled in academic, general, or vocational education programs.[55] Other variables such as sex and socioeconomic status were also included. The population from which this sample was randomly selected was rural and basically agricultural. The instruments used were the Knowledge of Occupations Test and the Scale for Measuring Family Socioeconomic Status of Vocational Students.

The outcome suggested that both the ninth and twelfth grade academic students knew significantly more than the general or vocational students. Also, there was an indication that the socioeconomic status was not a factor.

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[55]D.E. Vornholt, "An Analysis of Ninth and Twelfth Grade Students' Knowledge of Occupations, "Dissertation Abstracts International 40, No. 7 (1979): 3992 A.

Wampler designed a study to compare thirteen year old persons who had participated in a three to five year sequential career education program to a comparable group of thirteen year old who had not participated in any career education program.[56] The researcher was trying to determine if one group's career attitude maturity was greater than the other. The study consisted of 394 eighth grade students. The students were from all socioeconomic levels. The study involved two middle schools. One middle school was the experimental group who had been involved in the career education program and the other middle school (the control group) had not been involved in any type of career education. The two groups were administered the Crites' Career Maturity Inventory and found to have little or no statistically significant difference between the mean variance of the treatment group and the control group.

Lovett investigated whether the career development of adolescents could be enhanced by a structured counseling program that was designed to acquire psychological and social skills needed to confront some of the tasks of career development.[57] The study involved administering a pre-test

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[56]E.C. Wampler, "The Effect of Career Education on Career Attitude Maturity of Thirteen Year Olds," Dissertation Abstracts International 40, No. 7 (1979): 3794 A.

[57]A.B. Lovett, "The Effect of the Adkins Life Skills Program on the Career Development of High School Students," Dissertation Abstracts International 46, No. 3 (1985): 615 A.

and post-test to the two groups (experimental and control). The experimental group enrolled in the Adkins Life Skills Program. The control group did not nor did it have any form of career development.

The results indicated that the Adkins Life Skills Program was effective in facilitating the experimental subjects' career development. Also, this is an indication that a programmatic development might be the answer to increasing the career development of adolescents.

Gombos investigated the relationship between career aspiration and educational expectation and reading ability, race (white, Hispanic, and Oriental), and sex.[58] It was proposed that students with high reading ability would have greater career aspirations and educational expectations. Also, it was hypothesized that Hispanic students would have lower career aspirations and educational expectations than either Oriental or White students.

Using Roe's Occupational Classification Chart and the Career Education Questionnaire, the 278 participants' results were as follows:

1. There was a significant effect for reading ability. High reading ability students have higher career aspirations and educational expectations.

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[58]A.G.K. Gombos, "Relationship of Career Aspiration and Educational Expectation to Reading Ability, Race (White, Hispanic, Oriental), and sex of High School Students," Dissertation Abstracts International 46, No. 2 (1985): 409 A.

2. There was a significant effect for race. Hispanics were lower on both variables.
3. No significant effect for sex was found.
4. Positive high correlation was found between age and the first variable.

Andrea and Daniels assessed the career development needs of inner-city Black youths. It was found that the inner-city Black youths have a number of obstacles that many times interfere with attaining a successful and satisfying career. Subsequently, these obstacles cause Black inner-city adolescents to experience fewer successes than most other adolescents.[59] Knowing the current state of affairs regarding the Black urban youth, counselors must devise innovative methods in assisting youth.

In attempts to address this problem, a group of program planners devised a program to reverse the skill deficits of 40 inner-city youths who resided in two of Nashville's low income housing projects. Their chronological ages ranged from 14 to 17. The program served four purposes:

1. Promoting career awareness.
2. Teaching pre-employment skills.
3. Increasing personal discipline.
4. Cultivating problem-solving skills.

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[59]D. Glasglow, ed., "The Underclass," The State of Black America (New York: National Urban League, 1987), 99.

Although the counselors of this program used many traditional counseling techniques, the most improvement was discovered with the inclusion of a community counseling orientation within a culturally sensitive context.

CAREER EDUCATION PROGRAM DESIGN OF RESEARCH SCHOOL

The career education program design for this research was comparable to Winn's comprehensive model that was described earlier. Accordingly, each sixth, seventh, and eighth grade student was required to be enrolled in a career education class the entire school term. The school term was divided into two semesters; and the length of the career education classes were one semester. Therefore, each student was enrolled in two different career education classes each school term.

The problem with this model was limitation of career education classes offered. Also, the range of occupations was not broad enough and students were exposed to only a limited number of careers. The reason was that each career education class focuses on a particular field of careers and not a broad scope of careers in the world of work. However, there are a few ways in which this limited career knowledge was supplemented. Such things as:

1. Career Day - An annual event that brings in career speakers from all walks of

career life to explain their particular fields.

2. Career Fair - An annual event that allows students to meet with different college recruiters who explore different careers and educational opportunities with students.

3. Dream Jamboree - An annual event that allows students to interact with different colleges and universities about jobs and educational needs. Also, the students receive a detailed book that outlines important career education information and choices.

4. Classroom Guidance - The counselor usually makes a quarterly classroom visit to discuss choosing careers.

5. Individual/Student Conferences - Students are made aware of their opportunities to attend a conference with their counselor and discuss career choices and requirements.

6. Georgia Career Information System (GCIS) - This is a computerized library of career information. The

computer files contain information on occupations, programs of study, and schools that offer training and study programs.

Although these are all methods of implementing career education, students in general, and middle school in particular, are still very limited in the acquisition of information about a broad range of occupations and basic related information about these occupations. This research attempted to address those deficits.

SUMMARY

With the improvement of the labor force trends in Georgia (see print-outs), it is imperative that our youths are well prepared to take their places in the world of work.[60] All too often, it is not the inability that hinders our youths--but, rather, the lack of awareness.[61] After reviewing numerous literature on career education and implementation of programs, it is this researcher's belief that today's adolescents can not get too much information. Rather, the information attaining process should begin in the elementary school and continue to pick up the pace from

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[60]Georgia Department of Labor, Georgia Labor Market Trends 29, No.4 (April, 1993): 3-5.

[61]W. Reschke and K.H. Knierim, "How Parents Influence Career Choice," Journal of Career Planning and Employment, Spring (1980): 54-60.

that point on. After all, individuals tend to like and have interest in that which they are familiar. It is the duty of the school system to insure that every student has access to this familiarity in relations to career education.

CHAPTER 3

METHODOLOGY

This was a quasi-experimental study. The researcher investigated the relationship between career explorations and career choices of a select group of inner-city African-American middle school students. Also, the variables, age, grade, and gender were analyzed in determining their relationships to career exploration.

RESEARCH DESIGN

The quasi-experimental study included experimental and control groups. The purpose of this study was to investigate the effects that a career counseling module would have on the career awareness of a sample of inner-city African-American seventh grade students attending an inner-city school.

A career counseling module was presented to the experimental group. The control group was not exposed to this module. The two groups met the same number of times.

The length of each session was forty-five minutes. The length of the study was twelve weeks. The principal researcher administered the career counseling module.

At the beginning of each session, the following instructions were read to the experimental group: "The purpose of this program will be to enhance your knowledge of careers, job availability, and job current and future salaries."

In addition, the specific title of each phase of the career counseling module was read following the reading of the general instructions. The specific titles were as follows:

SESSION I - Careers pertaining to the fields of accommodating and entertaining.

SESSION II - Careers pertaining to the fields of humanitarian and caretaking.

SESSION III - Careers pertaining to the fields of plant and animal caretaking.

SESSION IV - Careers pertaining to the field of mechanics.

SESSION V - Careers pertaining to the field of business detail.

SESSION VI - Careers pertaining to the field of sales.

SESSION VII - Careers pertaining to the field of numerics.

SESSION VIII - Careers pertaining to the fields of communications and promotion.

SESSION IX - Careers pertaining to the fields of science and technology.

SESSION X - Careers pertaining to the field of artistic expression.

SESSION XI - Careers pertaining to the fields of education and social concerns.

SESSION XII - Careers pertaining to the field of medicine.

The pre and post-tests were administered to both groups at the same time and in the same environment. Analysis consisted of making all possible comparisons of the results obtained.

SETTING

The study was conducted at a middle school located in the southwest quadrum of a large metropolitan city. The participants of the study met weekly in the auditorium of the school during their advisement period. These weekly meetings consisted of twelve forty-five minute periods.

DESCRIPTION OF POPULATION

Seventh grade students, from an Atlanta middle school within an inner-city southwestern area, constituted the population for the study. Ary et al.[62] stated that, many times in research, the researcher cannot deal with the entire population due to constraints of the researcher's time and resources. Accordingly, only one school, from this predominately African-American school system, was used in this study. The school, used in this study, serves less than one percent of students of other ethnic backgrounds. Also, this school was appropriate for the study because of

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[62]Ary, D., L.C. Jacobs, and A. Razavieh, Introduction to Research in Education (Chicago: Holt, Rinehart, and Winston, Inc., 1990), 18.

its representation of economically disadvantaged inner-city population.

According to 1992-93 school year data, approximately 87 percent of the students in the total population of the study were considered low income as determined by the students' eligibility to participate in the free and reduced lunch program sponsored by the federal government. Specific eligibility was as follows: Out of a total population of 900 students, 83 percent were eligible for free lunches, 4 percent were eligible for reduced price lunches, and 13 percent were not eligible for either free or reduced price lunches.

The chronological ages of the students ranged from 11 to 13. The general level of the students' socio-economic status was middle-class to low-middle class. The number of female and male students was approximately even. The average educational level of the parents was high school completion with no additional formal education. Many students live in extended family situations where the grandmothers are the heads of the households. Several families consisted of the mother only who was responsible for earning a wage and rearing the children.

As referred to in the introductory chapter, the Perkins Act, of 1990, legislates that the greatest financial sources are funneled into those school systems and schools having

the largest population of disadvantaged students.[63] Based on these appropriations, the school system, studied in this research, received approximately $1 million from state and federal vocational funds for the fiscal year 1992, as reported in the school system's FY '92 Secondary Vocational Education Local Plan. The amount of the FY '93 state and federal funding for vocational education was $942,305. The school, from which the sample of inner-city students was taken, ranked fifth out of 15 schools in the system in its population of disadvantaged students for FY '93. According to the Perkins Act of 1990, a proportionately large amount of vocational funds should have been allocated to this school to assist the disadvantaged students in upgrading their academic and occupational skills.

The total school enrollment, for the 1992-93 school year, was 930. This total consisted of 390 sixth graders, 275 seventh graders, and 265 eighth graders. The total enrollment for the 1993-94 school year was 875 due to a new re-zoning plan. The grade level enrollment was 375 sixth graders, 250 seventh graders, and 250 eighth graders.

THE SAMPLE

A homogeneous population, i.e., all seventh graders, for the 1993-94 school year was identified and defined. The population was randomized and a representative sample was randomly selected i.e., the sample was chosen in a manner in

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[63]Perkins Act, Report No. 101-660.

which each member of the population had an equal chance of being selected. The sample, consisting of 50 persons, was equally divided into an experimental group and a control group. These students were randomly assigned to the two groups. This random assignment process was used based on the assumption that the significant characteristics of the members of the sample were equally distributed between the members of the two groups.

Additional support for the adequacy of the sample size for this study can be found in Ary et al., as follows:

> Typically, correlational studies do not require extremely large samples. It can be assumed that if a relationship exists it will be evident in a sample of moderate size, for instance 50-100.[64]

IMPLEMENTATION PROCEDURE

The writer implemented this study by using the procedures described below. The procedures for this study was organized into three periods: pre-research, research, and post-research.

PRE-RESEARCH PERIOD PROCEDURES

PHASE 1

The researcher contacted and submitted all necessary information to the school system in order to receive written permission to conduct the study. The researcher also requested and received written permission to use the instrument that was chosen for this study.

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[64]Ary et al. Introduction to Research in Education, 104.

PHASE 2

A follow-up letter was sent to the middle school principal who confirmed the approval and arrangements that were made for the implementation of the study. Also, the principal was shown a copy of the granting approval for research letter from the board of education's research committee.

PHASE 3

The researcher met with all of the seventh grade teachers during their planning period. The purpose of this meeting was to present the approval letter and explain the procedures of the study. The seventh grade teachers were also asked to assist the students in arriving at the auditorium at the appropriate time each Wednesday and remind them of their expected deportment.

The researcher met with the selected seventh graders in the auditorium during their advisement period every Wednesday for fourteen weeks. The career awareness research was twelve weeks in duration. However, time was included in the beginning for the orientation and pre-test and at the end for the wrap-up and post-test. The researcher was in charge of all sessions.

PHASE 4

The principal researcher devised a letter and sent it home to the parents/guardians of the participants. Although this program was considered to be a part of the regular

curricula therefore parental permission was not required, the researcher obtained parental permission for the purpose of this dissertation study.

RESEARCH PERIOD PROCEDURES

PHASE 5

The researcher gave the participants an orientation that addressed the purpose of the study, how they were chosen, and what the study involved.

The participants were allowed to ask questions about the study. The students were then administered the Ohio Career Interest Survey.

Assignment: The students were given the Accommodating/Entertaining list to become familiar with for the next session.

Note: Participants were given a hand-out each session containing the list of occupations that were to be discussed on the following session. These hand-outs were kept by each participant in a special loose-leaf notebook.

PHASE 6

The relating of occupational information began with this phase of the program. However, for these twelve sessions, the researcher referred to and described the sessions by use of lesson plans.

LESSON PLAN I

Goal:

To become familiar with the various occupations that are described in the Dictionary of Occupational Titles and the Encyclopedia of Careers.

Objective:

To identify jobs that are found in the accommodating and entertainment fields.

Purpose: (Direct quote from researcher.)

"The purpose of this program will be to enhance your knowledge of careers, job availability, and job present and future salaries."

Instructional Procedure:

This session will focus on such careers as flight attendant, bus driver, rodeo performer, and others of this field.

1. Researcher - led discussion on objective.

2. Discussion on related points.

   Note: From this point on, related points will refer to definition, nature of work, requirements, methods of entering the occupation, and employment outlook of each related field.

Materials Needed:

1. Encyclopedia of Careers

2. Dictionary of Occupational Titles

3. Print-outs of the accommodating/entertainment field and the humanitarian/caretaking field.

Evaluation:

Students will be requested to keep a loose-leaf notebook containing all notes and materials received from each session.

Assignment:

Students are to become familiar with the occupations that are on the humanitarian/caretaking list.

LESSON PLAN II

Goal:

To become familiar with the various occupations that are described in the Dictionary of Occupational Titles and the Encyclopedia of Careers.

Objective:

To identify jobs that are found in the humanitarian/caretaking field.

Purpose: (Direct quote from researcher.)

"The purpose of this program will be to enhance your knowledge of careers, job availability, and job present and future salaries."

Instructional Procedure:

This session will focus on such careers as police officer, model, meat cutter, barber, exterminator, and many other service occupations.

1. Researcher - led discussion on objective.

2. Discussion of related points.

Materials Needed:

1. Encyclopedia of Careers

2. Dictionary of Occupational Titles

3. Print-outs of the humanitarian/caretaking field and plant and animal caretaking field.

Evaluation:

Students will be requested to keep a loose-leaf notebook containing all notes and materials received from each session.

Assignment:

Students are to become familiar with the plant/animal caretaking list.

LESSON PLAN III

Goal:

To become familiar with the various occupations that are described in the Dictionary of Occupational Titles and the Encyclopedia of Careers.

Objective:

To identify jobs that are found in the plant/animal caretaking field.

Purpose: (Direct quote from researcher.)

"The purpose of this program will be to enhance your knowledge of careers, job availability, and job present and future salaries."

Instructional Procedure:

This session will focus on such careers as farmer, dog groomer, tree trimmer, and other related occupations.

1. Researcher - led discussion on objective.

2. Discussion of related points.

Materials Needed:

1. Encyclopedia of Careers

2. Dictionary of Occupational Titles

3. Print-outs of the plant and animal caretaking and mechanical fields.

Evaluation:

Students will be requested to keep a loose-leaf notebook containing all notes and materials received from each session.

Assignment:

Students will become familiar with the occupations that are on the mechanical list.

LESSON PLAN IV

Goal:

To become familiar with the various occupations that are described in the Dictionary of Occupational Titles and the Encyclopedia of Careers.

Objective:

To identify jobs that are found in the mechanical field.

Purpose: (Direct quote from researcher.)

"The purpose of this program will be to enhance your knowledge of careers, job availability, and job present and future salaries."

Instructional Procedure:

This session will focus on such careers as an airplane pilot, automobile mechanic, well driller, ambulance driver, and other related occupations.

1. Researcher - led discussion on objective.

2. Discussion on related points.

Materials Needed:

1. Encyclopedia of Careers

2. Dictionary of Occupational Titles

3. Print-outs of the mechanical and business detail lists.

Evaluation:

Students will be requested to keep a loose-leaf notebook containing all notes and materials received from each session.

Assignment:

Students are to become familiar with the occupations that are on the business detail list.

LESSON PLAN V

Goal:

To become familiar with the various occupations that are described in the Dictionary of Occupational Titles and the Encyclopedia of Careers.

Objective:

To identify jobs that are found in the business detail field.

Purpose: (Direct quote from researcher.)

"The purpose of this program will be to enhance your knowledge of careers, job availability, and job present and future salaries."

Instructional Procedure:

This session will focus on such careers as mail carrier, stenographer, typist, and other related occupations on the list.

1. Researcher - led discussion on the objective.

2. Discussion on related points.

Materials Needed:

1. Encyclopedia of Careers

2. Dictionary of Occupational Titles

3. Print-outs of the business detail and sales lists.

Evaluation:

Students will be requested to keep a loose-leaf notebook containing all notes and materials received from each session.

Assignment:

Students are to become familiar with the occupations that are on the sales list.

LESSON PLAN VI

Goal:

To become familiar with the various occupations that are described in the Dictionary of Occupational Titles and the Encyclopedia of Careers.

Objective:

To identify jobs that are found in the Sales field.

Purpose: (Direct quote from researcher.)

"The purpose of this program will be to enhance your knowledge of careers, job availability, and job present and future salaries."

Instructional Procedure:

This session will focus on such careers as insurance sales agent, photographer, peddler, and other related occupations on the list.

1. Researcher - led discussion on the objective.

2. Discussion on related points.

Materials Needed:

1. Encyclopedia of Careers

2. Dictionary of Occupational Titles

3. Print-outs of the sales and numerical fields.

Evaluation:

Students will be requested to keep a loose-leaf notebook containing all notes and materials received from each session.

Assignment:

Students are to become familiar with the occupations that are on the numerical list.

LESSON PLAN VII

Goal:

To become familiar with the various occupations that are described in the Dictionary of Occupational Titles and the Encyclopedia of Careers.

Objective:

To identify jobs that are found in the numerical field.

Purpose: (Direct quote from researcher.)

"The purpose of this program will be to enhance your knowledge of careers, job availability, and job present and future salaries."

Instructional Procedure:

This session will focus on such careers as payroll clerk, teller, statistician, and other related occupations on the list.

1. Researcher - led discussion on the objective.

2. Discussion on related points.

Materials Needed:

1. Encyclopedia of Careers

2. Dictionary of Occupational Titles

3. Print-outs of the numerical and communications and promotion lists.

Evaluation:

Students will be requested to keep a loose-leaf notebook containing all notes and materials received from each session.

Assignment:

Students are to become familiar with the occupations that are on the communications/promotion list.

LESSON PLAN VIII

Goal:

To become familiar with the various occupations that are described in the Dictionary of Occupational Titles and the Encyclopedia of Careers.

Objective:

To identify jobs that are found in the communications/promotion list.

Purpose: (Direct quote from researcher.)

"The purpose of this program will be to enhance your knowledge of careers, job availability, and job present and future salaries."

Instructional Procedure:

This session will focus on such careers as lawyer, reporter, lobbyist, contractor, and other related occupations on the list.

1. Researcher - led discussion on the objective.

2. Discussion on related points.

Materials Needed:

1. Encyclopedia of Careers

2. Dictionary of Occupational Titles

3. Print-outs of the communications and promotion and science and technology lists.

Evaluation:

Students will be requested to keep a loose-leaf notebook containing all notes and materials received from each session.

Assignment:

Students are to become familiar with the occupations that are on the science and technology list.

LESSON PLAN IX

Goal:

To become familiar with the various occupations that are described in the Dictionary of Occupational Titles and the Encyclopedia of Careers.

Objective:

To identify jobs that are found in the Science/ Technology list.

Purpose: (Direct quote from researcher.)

"The purpose of this program will be to enhance your knowledge of careers, job availability, and job present and future salaries."

Instructional Procedure:

This session will focus on such careers as chemist, geographer, pharmacist, and other related occupations on the list.

1. Researcher - led discussion on the objective.

2. Discussion on related points.

Materials Needed:

1. Encyclopedia of Careers

2. Dictionary of Occupational Titles

3. Print-outs of the science and technology and artistic expression lists.

Evaluation:

Students will be requested to keep a loose-leaf notebook containing all notes and materials received from each session.

Assignment:

Students are to become familiar with the occupations that are on the artistic expression list.

LESSON PLAN X

Goal:

To become familiar with the various occupations that are described in the Dictionary of Occupational Titles and the Encyclopedia of Careers.

Objective:

To identify jobs that are found in the Artistic Expression list.

Purpose: (Direct quote from researcher.)

"The purpose of this program will be to enhance your knowledge of careers, job availability, and job present and future salaries."

Instructional Procedure:

This session will focus on such careers as writer, composer, jeweler, and other related occupations on the list.

1. Researcher - led discussion on the objective.

2. Discussion on related points.

Materials Needed:

1. Encyclopedia of Careers

2. Dictionary of Occupational Titles

3. Print-outs of the artistic expression and educational/social lists.

Evaluation:

Students will be requested to keep a loose-leaf notebook containing all notes and materials received from each session.

Assignment:

Students are to become familiar with the occupations that are on the educational/social list.

LESSON PLAN XI

Goal:

To become familiar with the various occupations that are described in the Dictionary of Occupational Titles and the Encyclopedia of Careers.

Objective:

To identify jobs that are found in the Educational/Social list.

Purpose: (Direct quote from researcher.)

"The purpose of this program will be to enhance your knowledge of careers, job availability, and job present and future salaries."

Instructional Procedure:

This session will focus on such careers as counselor, dental hygienist, nurse, and other related occupations on the list.

1. Researcher - led discussion on the objective.

2. Discussion on related points.

Materials Needed:

1. Encyclopedia of Careers

2. Dictionary of Occupational Titles

3. Print-outs of the educational/social and medical lists.

Evaluation:

Students will be requested to keep a loose-leaf notebook containing all notes and materials received from each session.

Assignment:

Students are to become familiar with the occupations that are on the medical list.

LESSON PLAN XII

Goal:

To become familiar with the various occupations that are described in the Dictionary of Occupational Titles and the Encyclopedia of Careers.

Objective:

To identify jobs that are found in the Medical list.

Purpose: (Direct quote from researcher.)

"The purpose of this program will be to enhance your knowledge of careers, job availability, and job present and future salaries."

Instructional Procedure:

This session will focus on such careers as dentist, veterinarian, general practitioner, and other related occupations on the list.

1. Researcher - led discussion on the objective.

2. Discussion on related points.

Materials Needed:

1. Encyclopedia of Careers

2. Dictionary of Occupational Titles

3. Print-out of the Medical list.

Evaluation:

Students will be requested to keep a loose-leaf notebook containing all notes and materials received from each session.

Assignment:

Students will prepare their notebooks to be turned in at the next session.

PHASE 7

This session involved collecting participants' notebooks and administering the post-test. The instrument for the post-test was the Ohio Career Interest Survey.

Upon completion of the post-test, the participants were thanked by the researcher and reminded that the program had terminated. The researcher informed the participants that she would have a conference with each individually and discuss his/her test results. Also, the participant would receive his/her notebook during these individual conferences. The notebooks should be kept by the participants for future reference.

POST-RESEARCH PERIOD PROCEDURES

PHASE 8

The researcher collected all data for statistical analysis.

THE INSTRUMENT

The Ohio Career Interest Survey is an interest guidance inventory designed to provide efficient measures of an individual's interests. The measures are both highly reliable and valid for their intended purposes. The Ohio Career Interest Survey is an excellent tool for exploring career options. By relating the results of the survey to the requirements and descriptions of targeted occupations, the individual can gain a clear understanding of how his/her

interests compare with those of successful workers in over 20,000 occupations in the United States.

The following are basic questions and answers about the Ohio Career Interest Survey:

1. **What is the Ohio Career Interest Survey?**

   The interest survey includes 132 items organized into 12 scales that cover the world of work. For each item, students mark on a 5-point scale from "like very much" to "dislike very much."

2. **For what ages of people is the Career Survey designed?**

   Grades 7 through adult, or ages 11 through adulthood.

3. **How long does it take to administer the Career Survey?**

   The interest survey was untimed; but it takes about 20 minutes, on the average, to administer the interest survey. There are also pre-administration activities such as distributing material, completing the information grid on the answer sheet, and reading directions.

4. **What agency developed the interest survey?**

   The interest survey, originally called the Ohio Interest Survey, was developed by staff members of the Ohio Testing Services, a part of the Guidance and Testing Section, Division of Educational Services, of the Ohio Department of Education. The staff worked with Ohio schools using the Ohio Vocational Interest

Survey and used this experience to fashion an interest inventory that would be more efficient.

5. **Who authored the interest survey?**

   The interest survey, now called the Ohio Career Interest Survey, was developed by Dr. E. Roger Trent, Louis C. Vild, Janet E. Crandell, and Dr. Kenneth R. Higgins of the Ohio Department of Education.

6. **Are results of the interest survey linked to existing career information systems?**

   Yes, the Ohio Career Interest Survey results are linked directly to the Worker Trait Group arrangement of jobs developed by the United States Department of Labor and to the Military Occupation Specialties listed by the United States Department of Defense. The Worker Trait Group Guide, Occupational Outlook Handbook, and the Dictionary of Occupational Titles can be used with the interest survey.

7. **What is the purpose of the Career Survey?**

   There are three purposes:

   (a) To provide students, clients, and their counselors with information which may stimulate the counseling process.

   (b) To encourage students and clients to explore career areas which they may not have previously considered.

(c) To provide a means for self-reflection and clarification of long-range plans in order to make short-range educational decisions which are consistent with those plans.

8. **What model was used to develop the interest survey?**
A two-dimensional model was chosen as the best available conceptualization of both measured interests and traits referred to in career resource materials that are available in the nation's schools and in counseling centers. The dimensions are people-things and data-ideas. The people-things dimension covers the various functions involved in working with people or things. The data-ideas dimension covers at the data end; comparing, compiling, and analyzing either words or numbers. At the ideas end it includes analyzing, synthesizing, conceptualizing, or expressing ideas.

9. **What are the reliabilities of the 12 interest scales?**
Based upon Ohio studies of 6,000 to 7,000 students per grade, the following reliability coefficients were computed using Cronbach's coefficient alpha:

	Grades 7-9	Grades 10-12
1. Accommodating/ Entertaining	.88	.88
2. Humanitarian/ Caretaking	.88	.89
3. Plant/Animal/ Caretaking	.89	.90
4. Mechanical	.89	.91
5. Business Detail	.88	.90
6. Sales	.86	.87
7. Numerical	.90	.93
8. Communication/ Promotion	.89	.90
9. Science/Technology	.91	.92
10. Artistic Expression	.89	.90
11. Educational/Social	.91	.92
12. Medical	.92	.92
Median Reliability	.89	.90

10. Has validity of the interest survey been investigated?

An Ohio study testing approximately 1,000 students who had completed two-year vocational education training programs was done. Students' satisfaction with their career choice and the training programs were assessed and related to item means and scale scores on relevant interest scales. Students who scored high on the pertinent interest scales for an occupation were more satisfied than other students, indicating validity in a general sense for the interest scales.

11. **What scoring services are available to help students and clients use the results in career explorations?**
A Career Profile presents the information visually in a profile. This profile then reports results in words as a part of a personalized narrative for the student and client. The Career Profile is non-technical in nature and easy to understand for student, client, patient, or parent.

12. **What other aids for students and clients are available?**
An Orientation Booklet for each student and client was enclosed along with the survey booklets. This will enable people to better understand why they are taking the Career Survey. A Career Planning Booklet helps participants explore career possibilities in light of their results. These aids are particularly helpful for junior high and high school students, and ensure that taking the Career Survey was an educational experience for them.

13. **What aids are available for the counselor?**
A Counselor's List Report from the publisher's scoring service provides an alphabetical list of all students and clients tested along with Scale Scores, Number of Items Answered, Average Response, Scale Consistency Index, Same Sex Percentile Ranks, and Combined Sex Percentile Ranks. A Counselor's Guide summarizes

important information about the Career Survey and its uses.

14. Has the interest inventory been field-tested?

The interest survey has been used over the last year in the majority of Ohio schools.

15. Who publishes the Career Survey?

American Testronics
P.O. Box 2270
Iowa City, Iowa 52244

16. What are the interrelationships among the 12 interest scales?

The following table shows intercorrelations among the 12 interest scales. Intercorrelations for females are above the diagonal while those for males are below. The data are based on 1324 females and 1300 males enrolled in Ohio schools in grades 7-12. Scale numbers refer to scales previously reported in the answer to question 9.

Scales	1	2	3	4	5	6	7	8	9	10	11	12
1	--	.47	.38	.26	.47	.60	.23	.31	.14	.49	.56	.21
2	.73	--	.39	.26	.27	.36	.21	.35	.30	.39	.70	.73
3	.53	.60	--	.57	.17	.47	.22	.31	.55	.37	.34	.34
4	.36	.39	.48	--	.32	.57	.43	.44	.73	.31	.22	.30
5	.75	.68	.44	.37	--	.69	.73	.60	.32	.42	.42	.20
6	.75	.67	.52	.48	.88	--	.61	.66	.56	.54	.49	.31
7	.53	.54	.31	.31	.81	.75	--	.61	.54	.34	.31	.29
8	.62	.66	.39	.31	.81	.79	.74	--	.56	.63	.51	.38
9	.40	.53	.46	.56	.59	.61	.67	.60	--	.37	.27	.46
10	.73	.67	.46	.30	.74	.74	.61	.76	.53	--	.53	.29
11	.78	.81	.50	.33	.76	.74	.61	.74	.49	.75	--	.48
12	.59	.76	.44	.28	.68	.63	.62	.67	.50	.65	.71	--

17. **What kind of norms are available on the Career Survey?**

    Same sex norms and combined sex norms are available. Same sex norms provide greater options for career exploration and are reported on the Career Profile. Both are given on the counselor's list. Both sets are national norms.

18. **Is the Career Survey useable with non-school populations?**

    Yes, the Career Survey can provide useful information for clients in career counseling centers and patients in clinics who are seeking career counseling.

SUMMARY

The writer explained the methodology of this research. Research design, site, and setting were discussed. A description of the population as well as sample selection were included. The researcher described the implementation procedure in three parts--pre-research period, research period, and post-research period. All periods were explained in detail.

Finally, the Ohio Career Interest Survey was described in great detail. The inventory scales are also presented in the appendices. The researcher explained the methodology in such a thorough manner that the study could be easily replicated.

CHAPTER 4

DATA PRESENTATION AND ANALYSIS

The Ohio Career Interest Survey, used in this study, produced a compilation of data which are analyzed and presented in this chapter. This survey was administered in the form of a pre-test and post-test to the experimental and control groups. It was the researcher's task to investigate the correlation between career exploration and career choice of African-American inner-city middle school students. Therefore, between the pre and post-tests, the experimental group had a career intervention module for twelve (12) weeks; while the control group had no intervention.

In order to assure that there was no bias on the part of the researcher in selecting the two groups, a sixth grade student randomly selected the groups. The names of each seventh grader were placed in a bag according to gender (male bag and female bag); and shaken thoroughly. The sixth grader then randomly chose the names, one at a time, until fifty names had been drawn. After each draw from the bags, the names were placed alternately in either the box marked experimental or control.

Example: **1st draw - male - experimental**
2nd draw - female - experimental
3rd draw - male - control
4th draw - female - control

This cycle was repeated until the fifty names were drawn and placed in the research groups. The researcher observed the

operation only to assist if the sixth grader became confused. There were no confusions.

At the time of the drawing of names, the researcher knew very little about the educational background (test scores and grades) of the students. This was purposely done as an attempt to further delete any chances of biasness.

As stated earlier, this study involved African-American students. The seventh grade class at this school was not totally African-Americans. However, the ratio of white and other races was so minute that choosing all African-Americans was not difficult. There were only two white females, two white males, and one male Hispanic in the class. Neither name was drawn.

The students recorded their responses to items on the Ohio Career Interest Survey by coding their choices on optical scan forms. Upon completion of this task, these forms were processed by an optical scanner which recorded the students' responses on magnetic tape. So that the data could be more accessible to the computer system used, the information was transferred from magnetic tape to disk. The statistical package for the Social Sciences, Version X (SPSS-X) was used to produce the various descriptive and inferential statistics needed for this study. The same procedures applied to the administration of the pre- and post-tests.

So that the students' responses to the 132 items on the Ohio Career Interest Survey could be analyzed statistically, it was necessary to assign a number with each response on each item. This conversion resulted in a numerical scale ranging from five (5), which indicated that the student liked the described activity very much, to one (1) which indicated that the student disliked the activity very much. Thus, higher numerical values on the scale expressed stronger preferences for the activity than did lower numerical values.

Finally, when a gain was computed, that is when a numerical score for a given item on the pre test was subtracted from the corresponding score on the post test, a positive value for this gain indicated an increased preference for that item, whereas, a negative gain indicated a decreased preference.

The surveys were scored in accordance with the process outlined in the "Career Survey Counselor's Guide" (see table 1). Each item on the survey was classified into one of 12 scales (Accommodating/Entertaining, Humanitarian/Caretaking, etc), according to the career field to which the particular item was referring. The result was that all 132 items were equally distributed among the 12 scales, with each scale containing 11 items. A Scale Score, the arithmetic sum of the numerical responses of the items comprising the scale, was obtained for each scale. An adjustment was made for

missing responses. All surveys (pre and post) were scored identically in the same way.

Table 1.--Item Classification of the Ohio Career Interest Survey by Scale

Scale	Items
1. Accommodating/ Entertaining	1, 13, 25, 37, 49, 61, 73, 85, 97, 109, 121
2. Humanitarian/ Caretaking	2, 14, 26, 38, 50, 62, 74, 86, 98, 110, 122
3. Plant/Animal Caretaking	3, 15, 27, 39, 51, 63, 75, 87, 99, 111, 123
4. Mechanical	4, 16, 28, 40, 52, 64, 76, 88, 100, 112, 124
5. Business Detail	5, 17, 29, 41, 53, 65, 77, 89, 101, 113, 125
6. Sales	6, 18, 30, 42, 54, 66, 78, 90, 102, 114, 126
7. Numerical	7, 19, 31, 43, 55, 67, 79, 91, 103, 115, 127
8. Communication/ Promotion	8, 20, 32, 44, 56, 68, 80, 92, 104, 116, 128
9. Science/ Technology	9, 21, 33, 45, 57, 69, 81, 93, 105, 117, 129
10. Artistic Expression	10, 22, 34, 46, 58, 70, 82, 94, 106, 118, 130
11. Educational/ Social	11, 23, 35, 47, 59, 71, 83, 95, 107, 119, 131
12. Medical	12, 24, 36, 48, 60, 72, 84, 96, 108, 120, 132

The results were organized and analyzed by the twelve (12) scales that were set forth by the Ohio Career Interest

Survey. Therefore, the hypotheses, whether accepted or rejected, will be outlined and presented based on the twelve scales. Also, the hypotheses were stated in the null form and were tested at the .05 and .01 levels of statistical significance. The t-test was used to analyze the data obtained from this study.

SUMMARY OF FINDINGS

Each hypothesis is restated in the section presented below. This section also contains the major findings derived from a careful and thorough analysis of the data obtained from this study.

Ho1. There will be no statistically significant difference between the mean pre and post-test scores of the subjects in the experimental group. Table 2 contains information about the subjects' performance on the pre- and post-tests. Please be advised that the standard deviations are not listed in any of the tables that will follow, for each category, primarily due to lack of space and to the discretion of the researcher. The most salient observation to be made from an inspection of the data in Table 2 is the consistent positive increase in the post-test mean scores, on all scales, over the pre-test mean scores of the subjects in the experimental group. These

differences were highly statistically significant beyond the .01 level of significance.

Table 2.--COMPARISON BETWEEN PRE AND POST OHIO CAREER INVENTORY RESULTS OF THE EXPERIMENTAL GROUP

	N = 50	MEANS		
SCALE	PRE	POST	DIFF	t-VALUE
Accommodating/ Entertaining	26.58	33.49	6.91	5.87**
Humanitarian Caretaking	31.72	37.15	5.43	3.42**
Plant/Animal Caretaking	21.51	29.08	7.57	6.75**
Mechanical	24.80	30.51	5.71	4.12**
Business Detail	27.06	36.36	9.30	6.80**
Sales	27.04	34.54	7.50	5.18**
Numerical	26.86	33.00	6.14	4.24**
Communication/ Promotion	29.00	36.92	7.92	4.65**
Science/ Technology	25.54	32.33	6.79	4.32**
Artistic Expression	31.79	38.40	6.61	4.34**
Education/ Social	32.78	38.28	5.50	3.71**
Medical	26.73	31.46	4.73	3.43**
**Indicates significance to the .01 level.				

Scale 1

On the Accommodating/Entertaining scale, there was a mean gain of 6.91 between the pre- and post-test

scores of the experimental group. The t-value was 5.87 which is statistically significantly different at the .01 level.

Scale 2

On the Humanitarian/Caretaking scale, there was a mean gain of 5.43 between the pre- and post-test scores of the experimental group. The t-value was 3.42 which is statistically significantly different at the .01 level.

Scale 3

On the Plant/Animal Caretaking scale, there was a mean gain of 7.57 between the pre- and post-test scores of the experimental group. The t-value was 6.75 which is statistically significantly different at the .01 level.

Scale 4

On the Mechanical scale, there was a mean gain of 5.71 between the pre- and post-test scores of the experimental group. The t-value was 4.12 which is statistically significantly different at the .01 level.

Scale 5

On the Business Detail scale, there was a mean gain of 9.30 between the pre- and post-test scores of the experimental group. The t-value was 6.80

which is statistically significantly different at the .01 level.

Scale 6

On the Sales scale, there was a mean gain of 7.50 between the pre- and post-test scores of the experimental group. The t-value was 5.18 which is statistically significantly different at the .01 level.

Scale 7

On the Numerical scale, there was a mean gain of 6.14 between the pre- and post-test scores of the experimental group. The t-value was 4.24 which is statistically significantly different at the .01 level.

Scale 8

On the Communication/Promotion scale, there was a mean gain of 7.92 between the pre- and post-test scores of the experimental group. The t-value was 4.65 which is statistically significantly different at the .01 level.

Scale 9

On the Science Technology scale, there was a mean gain of 6.79 between the pre- and post-test scores of the experimental group. The t-value was 4.32 which is statistically significantly different at the .01 level.

Scale 10

On the Artistic Expression scale, there was a mean gain of 6.61 between the pre- and post-test scores of the experimental group. The t-value was 4.34 which is statistically significantly different at the .01 level.

Scale 11

On the Educational/Social scale, there was a mean gain of 5.50 between the pre- and post-test scores of the experimental group. The t-value was 3.71 which is statistically significantly different at the .01 level.

Scale 12

On the Medical scale, there was a mean gain of 4.73 between the pre- and post-test scores of the experimental group. The t-value was 3.43 which is statistically significantly different at the .01 level.

According to the mean scores of the experimental group, there was a significant gain on every scale. The students' post-test scores were better than their pre-test scores. Due to this significant difference, the null hypothesis was rejected.

The second hypothesis is listed next.

Ho2. There will be no statistically significant difference between the mean pre- and post-test scores of the subjects in the control group. The mean pre-test scores were consistently higher than the mean post-test scores for the control group. These differences were statistically significant on all scales except the scales for Accommodation/Entertainment, Plant/Animal Caretaking, and Artistic Expression.

Table 3 contains other major findings derived from further analysis of the data obtained from this study.

Scale 1

On the Accommodating/Entertaining scale, there was a mean gain of -2.39 between the pre- and post-test scores of the control group. The t-value was 1.59 which is statistically significantly different at the .01 level.

Scale 2

On the Humanitarian/Caretaking scale, there was a mean gain of -3.98 between the pre- and post-test scores of the control group. The t-value was 2.80 which is statistically significantly different at the .01 level.

Table 3.--COMPARISON BETWEEN PRE AND POST OHIO CAREER INVENTORY RESULTS OF CONTROL GROUP

	N = 50		MEANS	
SCALE	**PRE**	**POST**	**DIFF**	**t-VALUE**
Accommodating/ Entertaining	28.62	26.23	-2.39	1.59
Humanitarian Caretaking	33.62	29.64	-3.98	2.80**
Plant/Animal Caretaking	24.47	22.06	-2.41	1.90
Mechanical	27.26	23.55	-3.71	2.97**
Business Detail	29.98	26.80	-3.18	2.33*
Sales	29.95	25.16	-4.79	3.73**
Numerical	28.93	25.02	-3.91	3.23**
Communication/ Promotion	32.85	28.55	-4.30	3.50**
Science/ Technology	29.59	26.05	-3.54	2.50*
Artistic Expression	33.82	32.98	-0.84	0.50
Education/ Social	34.65	30.51	-4.14	2.46*
Medical	29.54	25.90	-3.64	2.55*
*Indicates significance to the .05 level. **Indicates significance to the .01 level.				

Scale 3

On the Plant/Animal Caring scale, there was a mean gain of -2.41 between the pre- and post-test scores of the control group. The t-value was 1.90

which is statistically significantly different at the .01 level.

Scale 4

On the Mechanical scale, there was a mean gain of -3.71 between the pre- and post-test scores of the control group. The t-value was 2.97 which is statistically significantly different at the .01 level.

Scale 5

On the Business Detail scale, there was a mean gain of -3.18 between the pre- and post-test scores of the control group. The t-value was 2.33 which is statistically significantly different at the .01 level.

Scale 6

On the Sales scale, there was a mean gain of -4.79 between the pre- and post-test scores of the control group. The t-value was 3.73 which is statistically significantly different at the .01 level.

Scale 7

On the Numerical scale, there was a mean gain of -3.91 between the pre- and post-test scores of the control group. The t-value was 3.23 which is statistically significantly different at the .01 level.

Scale 8

On the Communication/Promotion scale, there was a mean gain of -4.30 between the pre- and post-test scores of the control group. The t-value was 3.50 which is statistically significantly different at the .01 level.

Scale 9

On the Science Technology scale, there was a mean gain of -3.54 between the pre- and post-test scores of the control group. The t-value was 2.50 which is statistically significantly different at the .01 level.

Scale 10

On the Artistic Expression scale, there was a mean gain of -0.84 between the pre- and post-test scores of the control group. The t-value was 0.50 which is statistically significantly different at the .01 level.

Scale 11

On the Educational/Social scale, there was a mean gain of -4.14 between the pre- and post-test scores of the control group. The t-value was 2.46 which is statistically significantly different at the .01 level.

Scale 12

On the Medical scale, there was a mean gain of -3.64 between the pre- and post-test scores of the control group. The t-value was 2.55 which is statistically significantly different at the .01 level.

The third hypothesis is stated below.

Ho3. There will be no statistically significant difference between the students' mean pre-test scores of the experimental and control groups. Table 4 indicates that on each of the twelve scales, there was a significant difference at the .05 level between the mean pre-test scores of the experimental and control groups (see table 4). It appears that the experimental group's pre-test scores were significantly lower than the pre-test scores of the control group. This will be further explained along with hypothesis 4.

Due to this significant difference between the mean pre-test scores of the experimental and control group, the null hypothesis had to be rejected.

Scale 1

On the Accommodating/Entertaining scale, there was a gain of 4.52 between the mean pre- and post-test differences of the experimental and control

Table 4.--COMPARISON BETWEEN PRE-TEST SCORES OF EXPERIMENTAL AND CONTROL GROUPS

INTEREST SURVEY SCALE	PRE-TEST SCALE SCORE MEANS			
	EXPERIMENTAL GROUP (N=50)	CONTROL GROUP (N=50)	DIFF	t-VALUE
Accommodating/Entertaining	26.58	28.62	2.04	1.07
Humanitarian/Caretaking	31.72	33.62	1.90	0.95
Plant/Animal Caretaking	21.51	24.47	2.96	1.75
Mechanical	24.80	27.26	2.46	1.29
Business Detail	27.06	29.98	2.92	1.41
Sales	27.04	29.95	2.91	1.55
Numerical	26.86	28.93	2.07	1.17
Communication/Promotion	29.00	32.85	3.85	1.93
Science/Technology	25.54	29.59	4.05	2.12*
Artistic Expression	31.79	33.82	2.03	1.02
Educational Social	32.78	34.65	1.87	0.88
Medical	26.73	29.54	2.81	1.38
*Indicates significance to the .05 level.				

groups. The t-value was 4.87 which is a statistically significant difference at the .01 level.

Scale 2

On the Humanitarian/Caretaking scale, there was a gain of 1.45 between the mean pre- and post-test differences of the experimental and control groups. The t-value was 4.41 which is a statistically significant difference at the .01 level.

Scale 3

On the Plant/Animal Caretaking scale, there was a gain of 5.16 between the mean pre- and post-test differences of the experimental and control groups. The t-value was 5.89 which is a statistically significant difference at the .01 level.

Scale 4

On the Mechanical scale, there was a gain of 2.00 between the mean pre- and post-test differences of the experimental and control groups. The t-value was 5.05 which is a statistically significant difference at the .01 level.

Scale 5

On the Business Detail scale, there was a gain of 6.12 between the mean pre- and post-test

differences of the experimental and control groups. The t-value was 6.46 which is a statistically significant difference at the .01 level.

Scale 6

On the Sales scale, there was a gain of 2.83 between the mean pre- and post-test differences of the experimental and control groups. The t-value was 6.33 which is a statistically significant difference at the .01 level.

Scale 7

On the Numerical scale, there was a gain of 2.23 between the mean pre- and post-test differences of the experimental and control groups. The t-value was 5.32 which is a statistically significant difference at the .01 level.

Scale 8

On the Communication/Promotion scale, there was a gain of 3.62 between the mean pre- and post-test differences of the experimental and control groups. The t-value was 5.82 which is a statistically significant difference at the .01 level.

Scale 9

On the Science/Technology scale, there was a gain of 3.25 between the mean pre- and post-test

differences of the experimental and control groups. The t-value was 4.88 which is a statistically significant difference at the .01 level.

Scale 10

On the Artistic Expression scale, there was a gain of 5.77 between the mean pre- and post-test differences of the experimental and control groups. The t-value was 3.30 which is a statistically significant difference at the .01 level.

Scale 11

On the Educational Social scale, there was a gain of 1.09 between the mean pre- and post-test differences of the experimental and control groups. The t-value was 4.30 which is a statistically significant difference at the .01 level.

Scale 12

On the Medical scale, there was a gain of 1.09 between the mean pre- and post-test differences of the experimental and control groups. The t-value was 4.21 which is a statistically significant difference at the .01 level.

The fourth hypothesis is stated next.

Ho4. There will be no statistically significant difference between the mean post-test scores of the students in the experimental and control groups.

Table 5 indicates that on each of the twelve scales, there was a significant difference at the .01 level between the mean post-test scores of the students in the experimental and control groups (see table 5). The table shows that on each scale, the experimental group's mean score was higher than the control group's mean score. Therefore, the null hypothesis was rejected.

Scale 1

The t-test used to test hypothesis 4 compared the post-test scores of the experimental and control groups on the mean gains on the Accommodating/ Entertaining scale. It is shown that the mean gain was 7.26. The t-value measuring the statistical difference between these two means was 4.19 which is statistically significantly different at the .01 level.

Scale 2

The t-test used to test hypothesis 4 compared the post-test scores of the experimental and control groups on the mean gains on the Humanitarian/ Caretaking scale. It is shown that the mean gain

Table 5.--COMPARISON BETWEEN POST-TEST SCORES OF EXPERIMENTAL AND CONTROL GROUPS

INTEREST SURVEY SCALE	POST-TEST SCALE SCORE MEANS			
	EXPERIMENTAL GROUP (N=50)	CONTROL GROUP (N=50)	DIFF	t-VALUE
Accommodating/Entertaining	33.49	26.23	7.26	4.19**
Humanitarian/Caretaking	37.15	29.64	7.51	4.14**
Plant/Animal Caretaking	29.08	22.06	7.02	4.39**
Mechanical	30.51	23.55	6.96	3.90**
Business Detail	36.36	26.80	9.56	5.33**
Sales	34.54	25.28	9.26	5.59**
Numerical	33.00	25.02	7.98	4.83**
Communication/Promotion	36.92	28.55	8.37	4.81**
Science/Technology	32.33	26.05	6.28	3.89**
Artistic Expression	38.40	32.98	5.42	2.98**
Educational Social	38.28	30.51	7.77	4.81**
Medical	31.46	25.90	5.56	2.92**
*Indicates significance to the .01 level.				

was 7.51. The t-value measuring the statistical difference between these two means was 4.14 which is statistically significantly different at the .01 level.

Scale 3

The t-test used to test hypothesis 4 compared the post-test scores of the experimental and control groups on the mean gains on the Plant/Animal Caretaking scale. It is shown that the mean gain was 7.02. The t-value measuring the statistical difference between these two means was 4.39 which is statistically significantly at the .01 level.

Scale 4

The t-test used to test hypothesis 4 compared the post-test scores of the experimental and control groups on the mean gains on the Mechanical scale. It is shown that the mean gain was 6.96. The t-value measuring the statistical difference between these two means was 3.90 which is statistically significantly different at the .01 level.

Scale 5

The t-test used to test hypothesis 4 compared the post-test scores of the experimental and control groups on the mean gains on the Business Detail scale. It is shown that the mean gain was 9.56. The t-value measuring the statistical difference

between these two means was 5.33 which is statistically significantly different at the .01 level.

Scale 6

The t-test used to test hypothesis 4 compared the post-test scores of the experimental and control groups on the mean gains on the Sales scale. It is shown that the mean gain was 9.26. The t-value measuring the statistical difference between these two means was 5.59 which is statistically significantly different at the .01 level.

Scale 7

The t-test used to test hypothesis 4 compared the post-test scores of the experimental and control groups on the mean gains on the Numerical scale. It is shown that the mean gain was 7.98. The t-value measuring the statistical difference between these two means was 4.83 which is statistically significantly different at the .01 level.

Scale 8

The t-test used to test hypothesis 4 compared the post-test scores of the experimental and control groups on the mean gains on the Communication/ Promotion scale. It is shown that the mean gain was 8.37. The t-value measuring the statistical difference between these two means was 4.81 which

is statistically significantly different at the .01 level.

Scale 9

The t-test used to test hypothesis 4 compared the post-test scores of the experimental and control groups on the mean gains on the Science/Technology scale. It is shown that the mean gain was 6.28. The t-value measuring the statistical difference between these two means was 3.89 which is statistically significantly different at the .01 level.

Scale 10

The t-test used to test hypothesis 4 compared the post-test scores of the experimental and control groups on the mean gains on the Artistic Expression scale. It is shown that the mean gain was 5.42. The t-value measuring the statistical difference between these two means was 2.98 which is statistically significantly different at the .01 level.

Scale 11

The t-test used to test hypothesis 4 compared the post-test scores of the experimental and control groups on the mean gains on the Educational/Social scale. It is shown that the mean gain was 7.77. The t-value measuring the statistical difference

between these two means was 4.81 which is statistically significantly different at the .01 level.

Scale 12

The t-test used to test hypothesis 4 compared the post-test scores of the experimental and control groups on the mean gains on the Medical scale. It is shown that the mean gain was 5.56. The t-value measuring the statistical difference between these two means was 2.92 which is statistically significantly different at the .01 level.

Further analyses of hypotheses 3 and 4 are shown in table 6. The statistical data shows the comparison of the pre- and post-test differences for the experimental and control groups.

Tables 2, 3, 4, 5, and 6 contain data pertaining to the testing of all the hypotheses. The scale score means, for both the pre and post administrations of the Ohio Career Interest Survey, are given for both the experimental and control groups. Also shown in the tables are the scale score gains computed by subtracting the pre test mean from the corresponding post test mean. All of this information is given for each of the 12 scales appearing on the survey.

From these tables it can be seen that, for each of the scales, the mean scale score gain was positive for the experimental group. This is an indication of the overall

Table 6.--COMPARISON BETWEEN PRE- AND POST-TEST DIFFERENCES FOR EXPERIMENTAL AND CONTROL GROUPS

INTEREST SURVEY SCALE	GROUPS N=50 EXPERIMENTAL PRE-POST-TEST DIFF	CONTROL PRE-POST-TEST DIFF	DIFF	t-VALUE
Accommodating/Entertaining	6.91	-2.39	4.52	4.87*
Humanitarian/Caretaking	5.43	-3.98	1.45	4.41*
Plant/Animal Caretaking	7.57	-2.41	5.16	5.89*
Mechanical	5.71	-3.71	2.00	5.05*
Business Detail	9.30	-3.18	6.12	6.46*
Sales	7.50	-4.67	2.83	6.33*
Numerical	6.14	-3.91	2.23	5.32*
Communication/Promotion	7.92	-4.30	3.62	5.82*
Science/Technology	6.79	-3.54	3.25	4.88*
Artistic Expression	6.61	-0.84	5.77	3.30*
Educational Social	5.50	-4.41	1.09	4.30*
Medical	4.73	-3.64	1.09	4.21*
*Indicates significance to the .01 level.				

increase in interest by the experimental group for each of the interest areas (scales). Conversely, each of the control group means (except one) was negative. This was an indication of a loss of interest on each of the interest areas during the treatment period with the exclusion of the Artistic Expression area. The control males had a 0.88 positive gain.

The testing of the hypotheses required comparisons between the mean gains of the experimental and control groups. The statistical procedures used to perform these comparisons were the dependent and independent t-tests. The resulting t-values are given in the rightmost column of each table where applicable.

DISCUSSION

The four hypotheses all pertained to the correlation between career exploration and career choice of African-American inner-city middle school students. After collecting and analyzing the data, it was found that all four hypotheses had to be rejected.

The instrument used in forming the data was the Ohio Career Interest Survey. This survey consists of one-hundred thirty-two items. For each item, the students had to choose between five answers which ranged from like very much to dislike very much. In order to better analyze the statistical data, these one-hundred thirty-two items were placed into scales. There are a total of twelve scales. On

each scale, all of the hypotheses were rejected because there was a significant difference at the .05 level. This of course is an overall view. During the item analysis there were some computations that were not significantly different. However, overall, there was a statistically significant difference on each scale.

Hypothesis 1 stated that there would be no statistically significant difference between the pre and post-test scores of the experimental group. This hypothesis was rejected. The hypothesis attempted to indicate that the subjects' of the experimental group score would not change negatively or positively after the two administrations of the survey; to any statistical significance. This hypothesis further indicated that the Career intervention model would not help to change the experimental group's post-test scores.

The data showed that the experimental group did much better on the post-test than the pre-test. On the second administration of the survey, the mean scores were significantly higher which indicated a greater interest in the careers on the survey. The results also tend to emphasize that teaching students about different careers will make students more knowledgeable and interested in choosing a career. It will also introduce them to careers they have never heard of before. How can they be interested in that which they have never heard? The data here tends to

reject the hypothesis and support the thought that career exploration does make a difference in career choice.

Hypothesis 2 states that the pre and post-test scores of the control group would show no statistically significant difference. This hypothesis was also rejected. The control group showed a significant difference in their scores. However, the difference was a negative one. The results indicated that the control group lost interest in the careers on the survey. One might expect that their scores would at least remain the same; yet, they became lower.

The control group did not have an opportunity to be introduced to the career education module. While the experimental group was involved in the career education module, the control group remained in their homerooms and had advisement with their homeroom teacher. Please note that Advisement is an extended homeroom period when the homeroom teachers involve their students in different activities such as conflict management, problem solving, values, decision-making, and many other pertinent topics. Advisement was weekly and lasted for forty-five minutes. All seventh graders had Advisement, including the experimental and control groups. The difference was, the experimental group met in the auditorium for their advisement sessions, and their activities consisted of the career education activities.

Hypothesis 3 summarized that there would be no difference between the pre-test scores of the experimental and control groups. This hypothesis was rejected because there was a significant difference. However, the difference was that the control group's mean test scores on each of the twelve scales were higher than the experimental group's scores.

One would perhaps think that the pre-test scores would be similar between both groups. However, because the students were randomly chosen, there were no guarantees or predictions as to which group would have the higher scores; or if the groups would score the same. These results further indicated that the control group had a higher interest in the careers that were found in the scales than the experimental group.

Hypothesis 4 stated that there would be no significant difference between the mean post-test scores of the experimental and control groups. The hypothesis was rejected because there was a statistically significant difference between the post-test scores of the two groups mentioned. The experimental group whose pre-test mean scores had been lower, were significantly higher than the control group's post-test scores. This was amazing. Not only did the experimental group have higher mean scores on the post-test; but they had to come from behind to do it.

After the first administration of the survey, the control group had higher mean scores. What happened during the twelve weeks that followed? Did the experimental group do that much better after having the career education exposure, or did the control group not try their best the second time around?

Theoretical Review of the Study

Now that the research is completed, the researcher decided to review the results according to the theory upon which it was based. Looking at Super's six stages of Career Maturity Concepts for Adolescents, this research was more involved in the first stage (orientation to vocational choice). This stage emphasizes middle school students being introduced to different careers by such means as career days, career fairs, computerized information systems, and other varied methods. The researcher has worked with students in all of the above areas. Therefore, this research consisted of using a Career Education module with a randomly selected group of students.

According to the results, the Career Education module appeared to be more successful than the other areas mentioned. This conclusion was reached after viewing and analyzing the statistical data. The data revealed that the experimental group's mean test scores were more favorable after having the Career Education intervention. The results further indicated that the Career Education sessions

enlightened as well as enhanced students about careers that were vague or even unknown to them. Unlike the career days, career fairs, and the computerized information systems; the career education module allowed for questions, comments, and feedback on a continuous basis.

The results also substantiated Ann Roe's needs theory that was discussed in chapter 2. According to Roe, early relationships in the family and environment have significant effects upon the career choices of individuals. Most of the subjects of this study were from low socioeconomic backgrounds. The family as well as immediate environment were not conducive to higher education; which leads to better and more varied career choices. Most of the students from this study were very limited in regards to the various careers. the mean pre-test scores of the experimental group indicated that they had not been exposed to very many careers. In relations to Roe's theory, this lack of exposure and knowledge were due to the state of the family and background.

Comparative Study

In comparing this study to some of the related studies that were outlined in chapter 2, the findings of this research data was in compliance with the research by McNair. McNair's study indicated that parental influence and socioeconomic status had an influence on students. This was determined in the pre-test scores of the experimental group.

According to these scores, the experimental group (who came from a low socioeconomic background) had very little knowledge of the various careers. This lack of knowledge is predicated on a lack of exposure which is often the case in low-socioeconomic situations.

Upon the completion of this study, the researcher discussed the results of the survey with each subject. During this discussion, these questions were asked, "Are there magazines in your home and have you ever travelled outside of the metropolitan area?" In most cases, the answer to these questions was no. This of course is another example of how little exposure the inner-city low socioeconomic students have.

In comparing this study to the one designed by Wampler (chapter 2), the outcome was just the opposite. Wampler's research findings concluded that there was no significant difference between the experimental and control groups' post-test scores although the experimental group had a career education intervention and the control group did not. This, of course, was just the opposite of this research findings. As stated before, the findings showed a significant difference between the experimental and control groups' mean post-test scores.

Finally, the findings from the study by Lovett were in tune with the findings from this research. Lovett's study indicated that the career program that the adolescents

enrolled in made a significant difference in their scores. This research also indicated that the career module used in this study had a significant effect on the post-test scores of the experimental group.

CHAPTER 5

FINDINGS, ANALYSES, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Down through the years, the curriculum of the school system has been predicated on the needs of the society which it served. Today's society is fastly growing and highly technical. There is a wider range and scope of careers than ever before. Unless the school systems provide a curriculum that will include introducing these various jobs to the students, many students will miss a golden opportunity.

People tend to like familiarity and dislike unfamiliarity. The same is true when referring to students choosing a career. Students will choose a career from an area in which they are familiar. Often times, students will say they dislike a particular career simply because they have never heard of or been exposed to it. It is therefore, the awesome task of the school system to be sure that students receive exposure and knowledge about as many careers as possible; as soon as possible.

This research investigated just how effective involving middle school students in a career education module would be. The research attempted to introduce the students to various careers. Many of the careers the students had never heard of.

The researcher used a quasi-experimental design to assess the outcomes of career exploration as it related to

the career choice of African-American inner-city middle school students. The study involved seventh grade students who were randomly selected from a predominately black school. These students were then divided into two groups. Both groups were administered the Ohio Career Interest Survey twice. The experimental group received a career exploration intervention module between the two test periods. Whereas, the control group received no intervention between the two testing periods.

A Recapitulation of Research Design

Purpose

The purpose of this study was to investigate the effects that a career counseling module would have on the career awareness of a representative sample of inner-city African-American middle school student.

Population

The population consisted of seventh grade students enrolled in a middle school in an inner city of a metropolitan area in the south-eastern U.S. The socio-economic status of the students was considered to be low to middle class. The chronological age range was from 11-13. An equal number of male and female students participated. Most parents had completed high school only. Many students lived in extended families where the grandmothers were the heads of the households. Several families consisted of mothers only. The total enrollment, for the 1992-93 school

year, was 930. Two hundred and seventy-five (275) of these were seventh graders.

Sample

A stratified random sample was developed from the seventh grade students. The sample consisted of 50 students. These students were randomly assigned to the experimental and control groups in equal numbers.

Research Design

The experimental method was used to conduct this study. Both experimental and control groups were used. The experimental group was taught using a career counseling module. The writer conducted all experimental work throughout the duration of the study. The experimental work was done over a period of twelve (12) weeks. The length of each session was forty-five minutes. The sessions were held once each week according to the schedule.

All subjects participated in the pre-test and the post-test. The same instrument was administered at both times by the same person. The instrument was administered according to standard procedures.

Instrument

The Ohio Career Interest Inventory was employed to collect the data used in this study. This instrument was judged to have adequate validity and reliability for the purpose of this study.

Summary of Related Literature

When addressing an individual's career choice, the choices will usually be based on a developmental process, social-learning process, trait-factor process, or needs process.[65]

The developmental process views choosing a career as a step by step method that begins at birth and continues until death. How well one does depends on the progress made at each step or stage. This of course was the basis of Super's theory and the primary theory used in this research. The research further postulated that unless an individual satisfied each step or stage before moving to the next, the individual would not experience great job satisfaction and success.[66]

The social learning theory advocates that an individual's career choice is predicated upon life events such as genetic endowments, environmental conditions, learning experiences, and task approach skills.[67]

The trait-factor approach is based on the personality and interests of the individual. It is reasoned here that by studying the individual, one can determine the type of employment he/she might seek.[68]

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[65]Brown, Career Choice and Development, 108.

[66]Super, "A Life-Span Approach", 295.

[67]Zunker, Career Counseling, 25.

[68]Ibid., 70.

The needs theory focuses on early relationships within the family and the subsequent effects on choosing a career. The stronger and healthier the family life, the more likely the individual to experience success in his/her career choice.

The literature also revealed that school systems have various methods of implementing their career education programs. Some methods included career days or fairs, computerized career systems, classroom career guidance by the counselor, and youth motivation days; just to name a few. It is interesting to note that the school used in this research had implemented all of the above methods. However, seemingly, it was not until after the career module was used that a positive difference was noted.

Finally, there were several studies discussed that related to this study. Some of the findings of this study were supported by the previous studies and some were not.

FINDINGS

The first null hypothesis stated that there was no statistically significant difference between the mean pre and post-test scores of the subjects in the experimental group. The data did not support the hypothesis; there was a significant difference. The students had a significant gain between their pre and post-test scores. Therefore, the null hypothesis was rejected. This finding could result from the following existing conditions:

A. The students were present and very involved in all of the sessions that were presented to the experimental group. Each student chosen for this group had perfect attendance. The students were also encouraged to ask questions about any material that was not understood.

B. Most of the students who were randomly selected for the experimental group, unknowingly to the researcher, were among the top of the seventh grade class. It was later learned that these students had very good standardized test scores as well as good grades from their subjects.

C. The material was presented in a manner that aroused the students' curiosity and held their attention. The researcher realized the short attention span of this age group and attempted to continuously keep the students involved. Things such as voice pitch and tone play an important role in keeping students' attention.

D. Proximity - The researcher moved near the students constantly rather than talking from a lectern. This method usually helps to keep students alert and on-task.

The second null hypothesis stated that there was no statistically significant difference between the mean pre and post-test scores of the subjects in the control group.

The data did not support the hypothesis; there was a significant difference. Although, the difference was a negative one, the null hypothesis was rejected.

According to the data, the control group showed more interest in the careers associated with the different scales on the pre-test than the post-test. Of course, these students did not get the career intervention module. However, one might expect the scores to be about the same on the re-test; rather than significantly lower.

Because the survey is a lengthy one, perhaps the students became restless and decided to mark almost everything to their disliking; rather than concentrate on the items. This group, as it has been mentioned throughout the study, did not receive any form of career intervention. This may have caused the group to feel inferior or not as important as the experimental group; and by way of resentment, chose not to try as hard on the post-test.

The third null hypothesis stated that there was no statistically significant difference between the students' mean pre-test scores of the experimental and control groups. The data did not support the hypothesis; there was a significant difference. The experimental group's pre-test scores were lower than the control group's pre-test scores. Therefore, the null hypothesis was rejected.

The data indicated that not only was there a significant difference between the experimental and control

group's mean scores; the control group showed a higher interest according to the pre-test results. These pre-test results were somewhat amazing. They showed that on all of the scales, the control group's mean test scores were higher than the experimental group's mean scores.

The fourth null hypothesis stated that there was no statistically significant difference between the mean post-test scores of the students in the experimental and control groups. The data did not support the hypothesis; there was a significant difference. The post-test scores of the experimental group were higher than the post-test scores of the control group. Therefore, the null hypothesis was rejected. This finding could result from the following:

A. The experimental group had a career intervention module before the post-test and the control group had nothing. The experimental group had an opportunity to ask questions about the items on the survey that were not understood. This group was also introduced to numerous careers that were unknown before the intervention module. The control group was not privy to this information.

B. The control group may not have tried as hard as they should due to resentment. It was impossible to keep it secret that one group was getting special attention while the others received nothing.

Consequently, the control group may have felt like the unimportant group and responded accordingly.

C. The students in the experimental group may have had more "stick-to-it-ness" than the control group during the administration of the post-test. The control group may have lacked the discipline to stick with the items on the survey and attempt to understand those they believed they did not know. Perhaps most members of the control group simply marked their answer sheets to indicate that they were not interested in a job before taking the time to try and understand what was being asked--erroneous marking!

All of the null hypotheses were rejected because there was a significant difference at the .05 level on all of the scales between the two groups. The experimental group had significant gains in a positive direction; where as, the control group had a significant gain in a negative direction. It was indicated by the data that the experimental group became more interested in careers while the control group became more uninterested in the different careers.

ANALYSES

This research chose to investigate four hypotheses. Hypothesis 1 and 2 were investigated statistically by using the dependent t-test. Hypotheses 3 and 4 were statistically

investigated by the independent t-test. From this statistical data, all possible comparisons were made and evaluated.

The hypotheses were addressed and analyzed through the use of the twelve scales that were set forth by the Ohio Career Interest Survey. On all of the twelve scales, each hypothesis was rejected to the .05 and the .01 level of significance.

CONCLUSIONS

The major emphasis of this study was that there was a significant positive relationship between career exploration and career choice of inner-city African-American inner-city middle school students. According to the analysis of the data, it was shown that the career education module did make a positive significant difference. This difference was so significant in all of the hypotheses; that all of the hypotheses were rejected.

The rejecting of the hypotheses indicated that teaching students about different careers will in turn instill more interest in the students toward various careers. The inner-city population was selected for the study because statistics have shown that more of the disadvantaged live here and are less likely to be exposed to a wide variety of careers. It was the researcher's belief that if the career module could make a positive difference with the career

interests of these students, it would certainly make a difference with students who are not disadvantaged.

The hypotheses were based on Super's Career Development Theory. Particularly the developmental stage that occurs around age 12. Super, as it was shown in chapter 2, advocated that at this stage individuals select careers based on their interests. Likes are the main determinants for their aspirations. With this in mind, middle school students should be provided with an opportunity to enhance their knowledge of careers. This enhancement can best be carried out through career education classes. The career education classes should be included in the curriculum along with the other exploratory classes. With added knowledge of various careers would come added interests and likes in various careers.

To further substantiate the findings, many developmental theorists postulate that the more career exploratory involvement students have, the greater their scope and interests in a wide range of careers. The data of this research supported this idea. The group that had the career education module between tests did much better on the post-test than the group that did not have a career component.

IMPLICATIONS

The findings of this study indicate that there is a great need for career education classes. The null

hypotheses which in essence stated that having a career educational module would not increase interest were all rejected. It appeared that the career module did make a positive significant difference as indicated by the mean scores of both groups. The study's findings were also in compliance with career theorists such as Super, Ginzberg, and others, who advocate that the exploratory experiences were important in choosing a career.

It is imperative that schools realize their impact on students choosing a career. This means that there must be career educational classes taught whose main goal is to expose students to all types of occupations. Many of which I am certain the students have never heard. It goes without saying that these career classes would be for all students, preferably seventh graders; both males and females.

To capsulate, the following implications seem to be inherent in the conclusion drawn from the findings of this study:

1. That career counseling, making effective use of appropriate career counseling modules, may have significant implications for enhancing the level of knowledge of inner city middle grade African-American students.
2. That the development of career knowledge may have implications for the growth of interest in previously unknown careers.

3. That the acquisition of knowledge about careers generally and special careers specifically may motivate inner city students to develop more interests in developing the competencies needed to succeed in their careers.
4. That inner city students may share their knowledge about careers with other persons lacking such knowledge about such careers, thus helping to make the general population more knowledgeable about careers in their communities.

RECOMMENDATIONS

Although the findings of this research study indicated that the career education module improved career choices, there is still a great need for further investigation. Most counselors, career theorists, and psychologists would agree that the middle school years should include an introduction of various occupations. However, not enough research has been done in this area.

Due to time and budget constraints of this research, the study was limited to one school, perhaps in the future, this study will be done in other disadvantaged areas as well as those areas that are not considered to be disadvantaged.

The researcher made every effort to make the study as accurate and fair to everyone involved (experimental and control groups) as possible. For both the pre and post-tests, the students (experimental and control) were tested

together. This and all other guidelines that were mentioned in chapters three and four were followed carefully to ensure truthful data. However, there are still some concerns that bother the researcher. These concerns might be addressed by additional research in this area. The concerns are:

1. **Why did the control group score so poorly on the post-test?**

   It is understood that the control group did not receive any of the career education module. However, on the pre-test, the control group's mean scores were higher than the experimental group's scores. If the control group had answered in the same manner on the post-test, the control group could have possibly had better mean scores on some of the scales than the experimental group on the post-test. The researcher wonders if the control group was resentful for not being a part of the career education module and therefore refused to do their best. Of course the researcher believes that the career education module helped the experimental group; however, it is hard to explain such a large drop in the mean scores by the control group.

2. **In an effort to be fair, the students did not know which group they were assigned to until after the pre-test.**

Perhaps the control group put more of an effort into the pre-test because the members thought that they might be in the experimental group. This is still an attempt on the part of the researcher to explain the drastic dip in scores for the control group.

3. **There is always the possibility that the experimental subjects were answering in a manner that would please the researcher.**
   Although the researcher believes that the experimental group did improve their knowledge of different careers, it is only fair to mention this possibility.

To capsulate, the implications drawn from the conclusions of this study seem to warrant the following recommendations:

1. That this study be replicated using a larger population to determine the applicability of these findings to the general population.
2. That other appropriate modules be used, where appropriate, to provide similar information where needed.
3. That more career counseling be made available to students where necessary.
4. That appropriate efforts be made to provide career information to more students at more grade levels.

Finally, the researcher would like to again express the need for further research in this area. It is also the hope of this researcher that school systems will see the need to include career education in their curriculums in the form of career education exploratory classes. The classes must be a mandate for each middle school student in order to get the most effectiveness.

APPENDICES

LABOR FORCE TRENDS

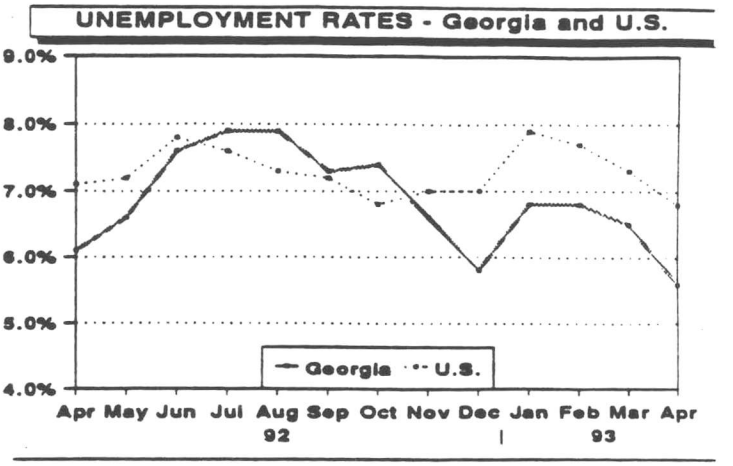
Unemployment rate falls to 5.6 percent

The total number of Georgians unemployed and the unemployment rate declined in April. At 5.6 percent, the unemployment rate recorded the largest over-the-month decline in 25 months as the rate fell nine-tenths of a percentage point from the March 1993 level of 6.5 percent.

The total number of unemployed persons dropped by more than 28,000 from March to April — also a 25 month record. At 182,319, the number unemployed was at its lowest level since 1991. A significant decrease in the number of unemployment insurance claimants during the reference week, along with fewer new job seekers, contributed to the declining numbers.

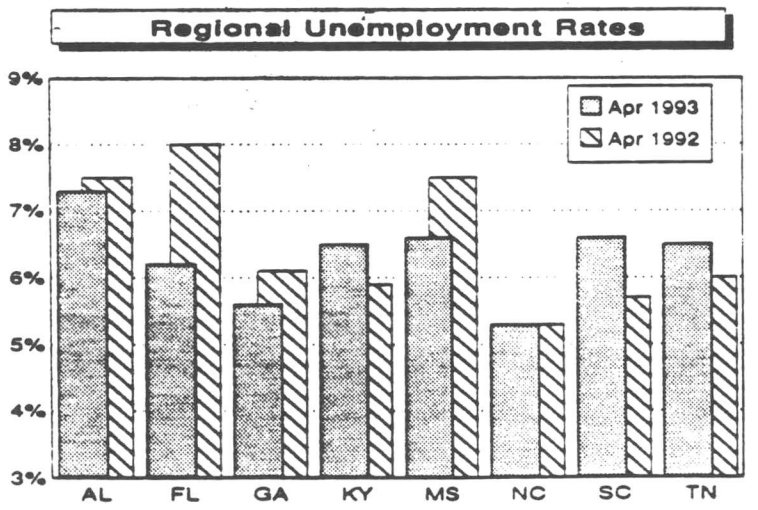
Total civilian employment continued to rise in April due to growth in nonfarm payroll employment. The increase was not as dramatic as the decline in unemployment; however, at 3,051,259, total employment has been sustained over the three million mark for ten consecutive months.

The U.S. unemployment rate, not seasonally adjusted, declined from 7.3 percent in March to 6.8 percent in April. After exceeding the national rate for four months in 1992, Georgia's unemployment rate has remained below the national average since November 1992.



Area data

The number unemployed and the unemployment rate declined in all of Georgia's metropolitan areas except Augusta, where the rate was unchanged in April. The unemployment situation improved in most Georgia counties as 147 counties followed the statewide trend. Nine counties experienced higher rates and three counties remained the same. Twelve counties had double digit unemployment rates in April compared to 23 the previous month.



Georgia has second lowest rate in the Southeast

North Carolina had the lowest unemployment rate in the Southeast in April 1993 and one year ago. With the second lowest unemployment rate in the region, Georgia's relative position among other Southeastern states has improved from one year ago when Georgia's rate was the fourth highest.

DESCRIPTION OF THE CAREER INTEREST INVENTORY SCALES

The twelve scales of the Career Interest Inventory are listed below, along with a brief description of jobs associated with each. The U.S. Department of Labor has organized most occupations in this country into sixty-six worker trait groups. Within each worker trait group are occupations where the people have similar interests and perform similar job duties. For each of the scales of the Career Interest Inventory, appropriate worker trait groups are listed, together with their number for ease in looking up information about them. Finally, on the right, two or more specific occupations are reported that are typical of occupations in each worker trait group. For each occupation, the Dictionary of Occupational Titles number is given to simplify looking up more information about specific occupations in the Dictionary of Occupational Titles or other source books.

Scale Description and Jobs in Fields Indicated by Scale	Illustrative Worker Trait Groups	Typical Occupations	DOT Number
1. **ACCOMMODATING/ ENTERTAINING** Providing personal services for the conveience of others. Tasks may include those associated with personal appearance entertainment, recreation, and guiding others.	01.07 Amusement	Announcer	159.347-010
		Ring Conductor	159.367-010
	07.04 Information Processing Speaking	Reservation Agent	238.367-018
		Telephone Operator	235.662-022
	09.01 Hospitality Services	Flight Attendant	352.367-010
		Host/Hostess, Restaurant	310.137-010
	09.02 Barbering & Beauty Services	Barber	330.371-010
		Cosmetologist	332.271-010
	09.03 Passenger Services	Bus Driver	913.463-010
		Taxi Driver	913.463-018
	09.04 Customer Services	Bartender	312.474-010
		Sales Clerk	290.477-014
	09.05 Attendent Services	Bellhop	324.677-010
		Cafeteria Attendant	311.677-010
	12.01 Sports	Head Coach	153.117-010
		Professional Athlete	153.341-010
	12.02 Physical Feats	Instructor, Physical	153.227-014
		Rodeo Performer	159.344-014
2. **HUMANITARIAN/ CARETAKING** Providing for the protection health, welfare, and care of other people. Tasks may include those associated with rescuing, administering first aid, ensuring safety and caretaking.	04.01 Safety & Law Enforcement	Fire Captain	373.134-010
		Police Officer	375.263-014
	04.02 Security Services	Detective	376.367-014
		Security Guard	372.667-034
	10.02 Nursing & Therapy Services	Nurse	075.374-010
		Occupational Therapist	076.121-010
	10.03 Child & Adult Care	Nurse's Aide	355.674-014
		Children's Tutor	099.277-010
	11.10 Regulations Enforcement	Fire Inspector	373.267-010
		Health Officer	168.167-018

3. **PLANT/ANIMAL CARETAKING** Providing for the care of plants and and animals. Tasks may include those associated with farming, landscaping, grooming, and breeding.	03.01 Managerial Work: Nature	Farmer	421.161-010
		Livestock Rancher	410.161-018
	03.02 General Supervisor: Nature	Supervisor, Park Workers	406.134-014
		Supervisor, Stock Ranch	410.131-022
	03.03 Training & Animal Care	Animal Keeper	412.674-010
		Dog Groomer	418.674-010
	03.04 Elemental Work: Nature	Farm Worker	421.683.010
		Tree Trimmer	408.664-010
4. **MECHANICAL** Working with machines, tools, techniques or principles that are mechanical. Tasks may include assembling, operating, driving, adjusting, repairing, tending, tuning, producing, sorting, and inspecting.	05.04 Air & Water Vehicle Operation	Airplane Pilot	196.263-010
		Captain, Fishing Vessel	197.133-010
	05.05 Craft Technology	Automobile Mechanic	620.261-010
		Carpenter	860.381-022
		Cook	313.361-014
		Electrician	824.261-010
		Machinist	600.280-022
		Plumber	862.381-030
		Welder	819.384-010
	05.06 Systems Operation	Engineer	197.130-010
		Switchboard Operator	952.362-038
	05.07 Quality Control	Car Inspector	910.667-010
		Electrical Inspector	168.167-034
	05.08 Land Vehicle Operation	Ambulance Driver	913.683-010
		Truck Driver	905.663-014
	05.09 Materials Control	Kitchen Clerk	222.587-022
		Stock Clerk	222.387-058
	05.10 Skilled Hand & Machine Work	Painter	840.381-010
		TV & Radio Repairer	720.281-018
	05.11 Equipment Operation	Bulldozer Operator	850.683-010
		Well Driller	859.362-010
	05.12 Elemental Work: Mechanical	Laborer, General	909.687-014
		Ordinary Seaman	911.687-030
	06.01 Production Technology	Machine Operator	616.360-018
		Refinery Operator	549.260-010
	06.02 Production Work	Baker	526.381-010
		Dry Cleaner	362.382-014
	06.03 Production Control	Meat Grader	525.387-010
		Tire Inspector	750.687-130
	06.04 Elemental Worker: Industrial	Laborer	529.687-130
		Machine Operator	619.685-062
5. **BUSINESS DETAIL** Involves attention to the details of an office. Tasks may include writing, typing, managing office projects, processing	07.05 Information Processing: Records	Mail Carrier	230.367-010
		Stenographer	202.362-014
	07.06 Clerical Machine Operation	Clerk Typist	203.362-010
		Supervisor, Computer	

and maintaining records classifying, filing, operating office machines, receiving calls and proofreading.	07.07 Clerical Handling	Operations	213.132-010
		General Clerk	209.562-010
		Office Helper	239.567-010
6. **SALES**	08.01 Sales Technology	Sales Agent, Insurance	250.257-010
Persuading others to buy, or providing goods and services for sale. Tasks may inlcude vending, buying, selling, quoting prices, and persuading others to buy.		Sales Rep., Advertising	254.357-014
	08.02 General Sales	Sales Agent, Real Estate	250.357-018
		Salesperson, Automobiles	273.353-010
	08.03 Vending	Peddler	291.457-018
		Photographer	143.457-010
7. **NUMERICAL**	07.02 Mathematical	Bookkeeper	210.382-014
		Payroll Clerk	215.482-010
Working with numbers. Tasks may include manipulating, computing, calculating, analyzing, predicting, or processing figures in accounting, finance, data processing or research statistics.	07.03 Financial Detail	Cashier	211.362-010
		Teller	211.362-018
	11.01 Mathematics & Statistics	Programmer, Business	020.162-014
		Statistician, Applied	020.167-026
	11.06 Finance	Accountant	160.167-010
		Loan Officer	186.267-018
8. **COMMUNICATIONS/ PROMOTION**	11.04 Law	District Attorney	110.117-010
		Lawyer	110.107-010
Work associated with oral or written communication. Tasks may include negotiating, arbitrating, administering, defending, reporting, translating, advertising, and publishing.	11.05 Business Administration	City Manager	188.117-114
		Manager, Operations	184.117-050
	11.08 Communications	Editor, Newspaper	132.017-014
		Reporter	131.267-018
	11.09 Promotion	Lobbyist	165.017-010
		Manager, Advertising	163.167-010
	11.11 Business Management	Manager, Apartment Bldg.	186.167-018
		Manager, Parts Store	185.167-038
	11.12 Contracts & Claims	Contractor	182.167-010
		Manager, Customer Service	168.167-058
9. **SCIENCE/ TECHNOLOGY**	02.01 Physical Science	Astronomer	021.067-010
		Chemist	022.061-010
		Georgrapher	029.067-010
Studying, discovering, analyzing, testing and/or and/or applying scientific principles, theories or methods. The areas of inquiry or application may include physics, chemistry, biology, astronomy, geology, agronomy, engineering, architecture or electronics.		Geologist	024.061-018
		Mathematician	020.067-014
		Physicist	023.061-014
	02.02 Life Sciences	Biologist	041.061-030
		Pharmacologist	041.061-010
	02.04 Laboratory Technology	Chemical Lab. Tech.	022.261-010
		Medical Technologist	078.361-014
		Pharmacist	074.161-010
	05.01 Engineering	Architect	001.061-010
		Chemical	

			Engineer	008.061-018
			Electrical Engineer	003.061-010
			Mechanical Engineer	007.061-014
		05.02 Managerial Work: Mechanical	Maintenance Supervisor,	184.167-050
			Water Works	184.167-246
		05.03 Engineering Technology	Drafter, Architectural	001.261-010
			Estimator	160.267-018
10.	**ARTISTIC EXPRESSION**	01.01 Literary Arts	Book Editor	132.067-046
			Writer: Prose, Fiction	
			Nonfiction	131.067-046
	Involves expressing creatively one's ideas or feelings. Tasks may involve writing, composing, acting, singing, decorating, painting, molding, etching, modeling, or photography.	01.02 Visual Arts	Art Director	141.031-010
			Illustrator	141.061-022
			Painter	144.061-010
		01.03 Performing Arts: Drama	Actor	150.047-010
			Producer	159.117-010
		01.04 Performing Arts: Music	Composer	152.067-014
			Musician, Instrumental	152.041-010
			Singer	152.047-022
		01.05 Performing Arts: Dance	Dancer	151.047-010
			Instructor, Dancing	151.027-014
		01.06 Technical Arts	Decorator	298.381-010
			Jeweler	700.281-010
		01.08 Modeling	Model	297.667-014
			Model, Artist's	961.667-010
11.	**EDUCATIONAL/ SOCIAL**	10.01 Social Services	Counselor	045.107-010
			Counseling Psychologist	045.107-026
	Work activities associated with an educational religious, or social institutions.		Social Worker, Psychiatric	195.107-034
	Tasks may include teaching, tutoring, counseling, training, administering, or coaching.	10.02 Nursing & Therapy Services	Dental Hygienist	078.361-010
			Nurse, General Duty	075.374-010
		11.02 Educational & Library Services	Homemaker	309.354-010
			Librarian	100.127-014
			Teacher, Elementary School	092.227-010
			Teacher, Secondary School	091.227-010
		11.07 Services Administration	Administrator, Hospital	187.117-010
			Principal	099.117-018
12.	**MEDICAL**	02.03 Medical Sciences	Dentist	072.101-010
			General Practitioner	070.101-022
	Providing professional medical services for humans or animals. Tasks may include diagnosing, treating, prescribing medicine, performing performing surgery, etc., in all areas of specialty or in general practice.		Physician, Head	070.101-074
			Veterinarian	073.101-010
		10.02 Nursing & Therapy Services	Dental Hygienist	078.361-010
			Nurse	075.374-010

2379 Springdale Circle
Atlanta, Georgia 30315

July 7, 1993

Ms. Kris Roberts
213 East 10th Street
Coraville, Iowa 52241

Dear Ms. Roberts:

Thank you again for returning my call and for your willingness to assist me in my attempts to receive written permission to use the Ohio Career Interest Survey. As a doctoral student at Clark Atlanta University, I am investigating the correlation between career awareness and career choice of middle school students. The findings from this study may be instrumental in planning and facilitating a more comprehensive awareness program.

The Ohio Career Interest Survey addresses each area of the job market and could be very useful in my research. I would like to use the Ohio Career Interest Survey as a "Pre" and "Post" test.

Your cooperation in helping me to attain written permission to use the Ohio Career Interest Survey is greatly appreciated. Please call if further information is needed. I may be reached at (404) 768-0387.

Respectfully,

Janice R. Mency

ACT

July 21, 1993

Janice R. Mency
2379 Springdale Circle
Atlanta, GA 30315

Dear Ms. Mency:

I am replying to your letter to Kris Roberts. American Testronics (AT) was acquired in 1992 by American College Testing (ACT). All instruments and materials (and their copyrights) formerly owned by AT are now property of ACT.

We are wiling to grant you permission to use the Ohio Career Interest Survey in your doctoral work at Clark Atlanta University, as described in your letter of July 7. In any written materials related to your project, please clearly credit ACT as the owner of the copyright to the survey and indicate that you are using it with our permission.

Please contact me directly if you have any questions. I wish you success with your project and would appreciate receiving a copy of your results for our files.

Sincerely,

Patricia A. Farrant, PhD
Assistant Vice President
Public Affairs

/dvh

2201 North Dodge Street, P.O. Box 168
Iowa City, Iowa 52243
(319) 337-1000

2379 Springdale Circle
Atlanta, Georgia 30315

Dear Principal:

This letter is a follow-up to our conversation about the research in which I am engaged that will investigate the correlation between career exploration and career choice of middle school students. This study is being conducted for a doctoral dissertation at Clark Atlanta University. The findings from this study may be instrumental in planning and facilitating a more comprehensive career exploration program.

This research will involve a pre and post test of the Ohio Career Interest Survey to a sample of your 7th grade students. Also, a selected number of those students will be involved in a twelve (12) weeks career guidance program that will meet weekly during the advisement period. All information collected will be reported as group data and held confidential. At no time during this study or the reporting of results will the names of the students or school be used.

Thank you for giving me permission to use your school in this study. As agreed upon, I will contact your 7th grade teachers and review the procedure to be used in collecting the necessary data.

Respectfully,

Janice R. Mency
Guidance Counselor

2379 Springdale Circle
Atlanta, Georgia 30315

Dear Teacher:

Your principal has given me permission to include your school in a research project which will investigate the correlation between career exploration and career choice of middle school students. This study is being conducted as a doctoral dissertation at Clark Atlanta University. The findings may be instrumental in planning and facilitating a comprehensive career exploration program.

For this study, randomly selected 7th grade students will be involved in a twelve (12) weeks career guidance program that will meet weekly in the auditorium during the advisement period. All information collected will be held confidential. At no time during this study or the reporting of results will the names of the students, teachers, or school be used.

Thank you for assisting me in this process. I will stop by your classroom and deliver a list containing the names of the participants as well as the dates and times of the career guidance sessions. I will also entertain any questions that you may have at that time.

Respectfully,

Janice R. Mency
Guidance Counselor

2379 Springdale Circle
Atlanta, Georgia 30315

Dear Parents:

Your child has been selected to participate in a research project which will investigate the correlation between career awareness and career choice. This study is being conducted as a doctoral dissertation at Clark Atlanta University. The findings from this study may be instrumental in planning and facilitating a more comprehensive career awareness program.

For this study, your child will be asked to respond to a "pre" and "post" test using the Ohio Career Interest Survey. Between the "pre" and "post" test, your child will be involved in a twelve (12) week career guidance program that will meet every Wednesday during their advisement period.

I am requesting permission for your child to participate in this study. This project is cost free and all participants will remain anonymous when reporting the data obtained.

Your cooperation in signing and returning the form below is greatly appreciated. Please call me at 752-0711 between 8:00 a.m. and 3:30 p.m., if you have any questions.

Respectfully,

Janice R. Mency
Guidance Counselor

I give my child _____

permission to particpate in the research project

described above.

Parent's Signature _____

Ohio Career Interest Survey

DIRECTIONS FOR FILLING IN THE NAME BLOCK

Beginning in the first box on the left, print your last name. Then print your first name. In each column blacken the circle containing the letter matching each letter of your name.

DIRECTIONS FOR MARKING THE ANSWER SHEET

1. Use only a black-lead pencil, No. 2 or softer. Do not use an ink or ballpoint pen.
2. Make heavy, dark marks that fill the entire circle.

EXAMPLES

IMPROPER MARKS  PROPER MARK 

3. Erase completely any response you wish to change.
4. Make no stray marks.

OHIO CAREER INTEREST SURVEY

DIRECTIONS: THIS IS NOT A TEST and there are no right or wrong answers. Each of the 132 items is a job activity. Decide whether or not you would like to do the activity as part of a full-time job. Assume that you have the required training for the job.

Read each interest item carefully and respond on the separate answer sheet by making a dark pencil mark in one of the five response circles for each item.

The following will show you how to mark:

	Answer Sheet
I would like this activity very much.	
I would like this activity.	
I would neither like nor dislike this activity.	
I would dislike this activity.	
I would dislike this activity very much.	

Be sure to mark each response beside the right item number on Side 2 of your answer sheet.

REMEMBER TO THINK OF EACH ACTIVITY AS SOMETHING YOU WOULD DO AS PART OF A FULL-TIME JOB.

You may begin.

1. Show people where to find fitting or dressing rooms.
2. Look after young children as they play.
3. Keep water at the right temperature for fish to live.
4. Supervise people who use drilling equipment.
5. Type letters at a keyboard of a computer terminal.
6. Show houses to possible buyers.

Be sure that you are on number 7 on your answer sheet.

7. Use numerical data to predict the rise and fall of stock prices.
8. Speak for a person who is running for a public office.
9. Analyze the chemical content of paper.
10. Select music to suit the abilities of a band or chorus.
11. Show students how to do things that will be helpful outside school.
12. Give a person medicine for a skin disease.
13. Entertain a crowd at a sports event.
14. Rescue injured skiers and administer first aid.
15. Supervise the harvesting of vegetable crops.
16. Operate tools that shape metal.
17. Read typed material to find mistakes and make corrections.
18. Call on possible buyers and make a sales talk.
19. Use statistics to estimate future spending for a company.
20. Persuade members of the legislature to pass a particular law.
21. Use surveying instruments to establish property boundaries.
22. Create music to express ideas or feelings.
23. Show children how to look up words in a dictionary.
24. Fill and pull teeth.

GO ON

Ohio Career Interest Survey

SOMETHING YOU WOULD DO AS PART OF A FULL-TIME JOB.

25. Help airplane passengers be comfortable.
26. Apply ice bags to injuries.
27. Plant trees to restore a forest.
28. Operate a commercial airplane.
29. Prepare and type legal papers.
30. Sell articles such as furniture to the highest bidder at an auction.

31. Prepare a schedule of payments for home mortgage loans.
32. Interview people who have attended an event of national importance.
33. Design electronic equipment for scientific use.
34. Model the latest men's or women's fashions.
35. Teach out-of-school youth how to get jobs.
36. Perform surgery to treat a disease.

37. Help people carry packages.
38. Supervise rescue activities at the site of a fire.
39. Move animals from one cage or pen to another.
40. Inspect automobiles to insure safety standards.
41. Cash checks and pay out money in a bank.
42. Describe a special offer on books or magazines.

43. Explain the meaning of statistical results.
44. Check the accuracy of the facts in a news story.
45. Conduct scientific studies to insure the safe use of a new product.
46. Create new designs for jewelry.
47. Help high school students enroll in college.
48. Use x-rays to help determine what disease a person has.

49. Deliver food orders to homes or hotel rooms.
50. Supervise the activities in finding a missing child.
51. Trim limbs and branches of fruit trees.
52. Assemble metal parts such as those used in automobiles.
53. Use an office machine that makes copies.
54. Explain the difference in life insurance policies that you are selling.

55. Compute the amount a bank charges for its services.
56. Represent the federal government in talks with a foreign country.
57. Determine the brightness of a newly discovered star.
58. Read and interpret a stage play.
59. Provide assistance to members of troubled families.
60. Determine what medical treatment a pet should have.

61. Show visitors around a town or city.
62. Protect a person from physical injury.
63. Plant new bushes or shrubs according to a landscaping plan.
64. Adjust or repair sewing machines.
65. Plan and manage office activities and work projects.
66. Quote prices for new garden equipment.

67. Analyze numerical results from marketing surveys.
68. Work out an agreement on the wording of a legal contract.
69. Design a plan for constructing a new space vehicle.
70. Create a dance routine to give a desired effect.
71. Counsel families with very low incomes.
72. Treat diseases of the nervous system.

73. Store coats or luggage for visitors at an office building.
74. Help handicapped persons do exercises.
75. Supervise workers on a dairy farm.
76. Follow drawings to install electrical wires in walls.
77. Transcribe and type dictated reports.
78. Determine how much food to stock in a grocery store.

GO ON

Ohio Career Interest Survey

SOMETHING YOU WOULD DO AS PART OF A FULL-TIME JOB.

79. Use mathematics to help locate oil or water resources.
80. Describe to a judge why a person is not guilty.
81. Develop a process to change the characteristics of a metal.
82. Write a play to show the actions of different characters.
83. Help people understand and deal with their feelings.
84. Examine the eyes for diseases.

85. Serve coffee or other drinks at dinner.
86. Administer first aid to persons involved in an accident.
87. Raise chickens for eggs and meat.
88. Inspect and remove broken parts from an assembly line.
89. Trace folders that are missing from a file.
90. Introduce new items to other sales agents.

91. Compute the rate of exchange for foreign money.
92. Conduct meetings with employees to talk about future plans.
93. Prepare detailed plans for the construction of a building.
94. Create designs for photographic printing plates.
95. Explain to students how well they are doing in class.
96. Perform surgery on the mouth.

97. Collect tickets and show people to their seats in a theater.
98. Set up oxygen tents to help people breathe.
99. Spray plants to control insects.
100. Transport light loads by truck from one town to another.
101. Write down what witnesses say in a court of law.
102. Offer special rates to attract buyers.
103. Analyze data from computer printouts.
104. Analyze an important local event for radio or television.
105. Study the biological development of a certain animal.
106. Arrange and photograph window displays.
107. Teach people exercises that will help them stay in shape.
108. Recommend treatment for hearing difficulties.

109. Plan play activities for children.
110. Help a handicapped person to bathe.
111. Pick fruits or vegetables.
112. Repair damaged mechancial parts.
113. Compose routine business letters.
114. Place a special sales order for a customer.

115. Prepare a financial statement for a business.
116. Speak publicly in support of a community program.
117. Conduct research to find the cause of plant disease.
118. Design stage sets or backdrops for a play.
119. Help people recently released from prison to adjust and find jobs.
120. Diagnose and treat mental illnesses.

121. Wash and dry hair.
122. Provide food and care for children who have no home.
123. Raise animals for sale.
124. Repair small household appliances.
125. Rate the work of typists, clerks, or other office personnel.
126. Supervise the sales activities of delivery workers.

127. Calculate how much tax refund a person will get.
128. Settle disputes in a court of law.
129. Study the earth's gravity.
130. Draw or paint pictures to explain an idea.
131. Help physically handicapped students adjust to a new school.
132. Examine and treat the injuries of young children.

STOP

COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON OHIO CAREER INTEREST SURVEY

ACTIVITY	MEANS					
	EXPERIMENTAL GROUP (N=50)			CONTROL GROUP (N=50)		
	PRE	POST	GAIN	PRE	POST	GAIN
1. Show people where to find fitting or dressing rooms.	2.34	3.04	0.70	2.42	2.28	-0.14
2. Look after young children as they play.	2.80	3.46	0.66	3.10	2.90	-0.20
3. Keep water at the right temperature for fish to live.	1.88	2.56	0.68	1.84	2.08	0.24
4. Supervise people who use dueling equipment.	2.64	2.78	0.14	2.54	2.28	-0.26
5. Type letters at a keyboard of a computer terminal.	2.48	3.60	1.12	2.76	2.90	0.14
6. Show houses to possible buyers.	3.02	3.48	0.46	3.55	2.94	-0.61
7. Use numerical prefixes to predict the rise and fall of stock prices.	2.22	2.78	0.56	2.71	2.16	-0.55
8. Speak for a person who is running for public office.	2.36	3.04	0.68	3.20	2.36	-0.84
9. Analyze the chemical content of paper.	1.88	2.52	0.64	2.42	2.06	-0.36
10. Select music to suit the abilities of a band or chorus.	2.96	3.28	0.32	3.28	3.00	-0.28

COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON OHIO CAREER INTEREST SURVEY

ACTIVITY	MEANS					
	EXPERIMENTAL GROUP (N=50)			CONTROL GROUP (N=50)		
	PRE	POST	GAIN	PRE	POST	GAIN
11. Show students how to do things that will be helpful outside of school.	3.48	3.72	0.24	3.59	3.51	-0.08
12. Give a person medicine for a skin disease.	2.56	2.82	0.26	2.72	2.46	-0.26
13. Entertain a crowd at a sports event.	2.82	3.40	0.58	2.90	2.98	0.08
14. Rescue injured skiers and administer first aid.	2.68	3.30	0.62	3.06	2.66	-0.40
15. Supervise the harvesting of vegetable crops.	1.87	2.56	0.69	1.88	4.26	-0.14
16. Operate tools that shape metal.	1.94	2.72	0.78	2.42	2.22	-0.20
17. Read typed material to find mistakes and make corrections.	2.58	2.96	0.38	2.78	2.36	-0.42
18. Call on possible buyers and make a sales talk.	2.82	3.16	0.34	3.26	2.60	-0.66
19. Use statistics to estimate future spending for a company.	2.66	3.32	0.66	2.88	2.78	-0.10
20. Persuade members of the legislature to pass a particular law.	2.82	3.44	0.62	3.44	2.70	-0.74

COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON OHIO CAREER INTEREST SURVEY

ACTIVITY	MEANS					
	EXPERIMENTAL GROUP (N=50)			CONTROL GROUP (N=50)		
	PRE	POST	GAIN	PRE	POST	GAIN
21. Use surveying instruments to establish property boundaries.	2.28	2.84	0.56	2.42	2.12	-0.30
22. Create music to express feelings or ideas.	3.32	3.60	0.28	3.32	3.48	0.16
23. Show children how to look up words in a dictionary.	2.98	3.84	0.86	3.06	3.00	-0.06
24. Fill and pulled teeth.	2.02	2.52	0.50	2.08	2.00	-0.08
25. Help airline passengers be comfortable.	2.52	3.24	0.72	2.84	2.46	-0.38
26. Apply ice bags to injuries.	2.40	3.18	0.78	2.52	2.67	0.15
27. Plant trees to restore a forest.	2.44	3.46	1.02	3.28	2.94	-0.34
28. Operate a commerical airplane.	-2.36	3.02	0.66	3.02	2.68	-0.34
29. Prepare and type legal papers.	-2.54	3.40	0.86	2.82	2.42	-0.40
30. Sell articles such as furniture to the highest bidder at an auction.	2.56	3.50	0.94	2.98	2.28	-0.70

COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON OHIO CAREER INTEREST SURVEY

ACTIVITY	MEANS					
	EXPERIMENTAL GROUP (N=50)			CONTROL GROUP (N=50)		
	PRE	POST	GAIN	PRE	POST	GAIN
31. Prepare a schedule of payments for home mortgage loans.	2.70	3.00	-0.30	2.38	2.14	-0.24
32. Interview people who have attended and event of national importance.	2.84	2.40	-0.44	3.04	2.72	-0.32
33. Design electronic equipment for scientific use.	2.69	3.16	0.47	3.33	3.02	-0.31
34. Model the latest men's or women's fashion.	3.40	4.12	0.72	3.34	3.54	0.20
35. Teach out-of-school youth how to get jobs.	3.26	3.76	0.50	3.59	3.31	-0.28
36. Perform surgery to treat a disease.	2.36	2.72	0.36	2.66	2.74	0.08
37. Help people carry packages.	2.30	2.58	0.28	2.72	1.98	-0.74
38. Supervise rescue activities at the site of a fire.	2.76	3.55	0.79	3.32	2.46	-0.86
39. Move animals from one cage or pen to another.	2.04	2.48	0.44	2.52	1.92	-0.60
40. Inspect automobiles to insure safety standards.	2.72	3.56	0.84	3.48	2.34	-1.14

COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON OHIO CAREER INTEREST SURVEY

ACTIVITY	MEANS					
	EXPERIMENTAL GROUP (N=50)			CONTROL GROUP (N=50)		
	PRE	POST	GAIN	PRE	POST	GAIN
41. Cash checks and pay out money at a bank.	2.78	3.68	0.90	2.96	3.18	0.22
42. Describe a special offer on books or magazines.	2.36	2.98	0.62	2.33	2.29	-0.04
43. Explain the meaning of statistical results.	2.14	2.54	0.40	1.98	2.08	0.10
44. Check the accuracy of the facts in a news story.	2.02	2.98	0.96	2.10	1.98	-0.12
45. Conduct scientific studies to insure the safe use of a new product.	2.24	3.18	0.94	2.71	2.53	-0.18
46. Create new design for jewelry.	4.24	3.72	-0.52	3.94	3.66	-0.28
47. Help high school students enroll in a college.	3.31	3.71	0.40	3.35	3.02	-0.33
48. Use x-rays to help determine what disease a person has.	2.58	2.94	0.36	3.16	2.72	-0.44
49. Deliver food orders to homes or model homes.	2.32	2.86	0.54	2.58	2.40	-0.18
50. Supervise the activities in finding a missing child.	3.40	3.94	0.54	3.56	3.12	-0.44

COMPARISON BETWEEN EXPERIMENTAL AND
CONTROL GROUPS ON OHIO CAREER INTEREST SURVEY

ACTIVITY	MEANS					
	EXPERIMENTAL GROUP (N=50)			CONTROL GROUP (N=50)		
	PRE	POST	GAIN	PRE	POST	GAIN
51. Trim limbs and branches of forest trees.	0.86	1.50	0.64	1.76	1.54	-0.22
52. Assemble metal parts such as those used in automobiles.	2.10	2.66	0.56	2.45	2.02	-0.43
53. Use an office machine to make copies.	2.70	3.62	0.92	2.78	2.82	0.04
54. Explain the differences in life insurance policies you are selling.	2.42	2.86	0.44	2.42	2.12	-0.30
55. Compute the amount a bank charges for its services.	2.52	3.32	0.80	3.04	2.61	-0.43
56. Represent the federal government in talks with a foreign country.	3.32	2.50	-0.82	2.29	2.94	0.65
57. Determine the brightness of a newly discovered star.	2.42	2.98	0.56	2.52	2.26	-0.26
58. Read and interpret a stage play.	2.46	3.26	0.80	2.38	2.32	-0.06
59. Provide assistance to members of troubled families.	3.10	3.76	0.66	3.36	2.80	-0.56

COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON OHIO CAREER INTEREST SURVEY

ACTIVITY	MEANS					
	EXPERIMENTAL GROUP (N=50)			CONTROL GROUP (N=50)		
	PRE	POST	GAIN	PRE	POST	GAIN
60. Determine what medical treatment a pet should have.	2.54	3.14	0.60	3.16	2.42	-0.74
61. Show visitors around a town or city.	2.32	3.04	0.72	2.86	2.66	-0.20
62. Protect a person from physical injury.	2.94	3.40	0.46	3.18	2.58	-0.20
63. Plant new bushes or shrubs according to a landscaping plan.	2.08	2.60	0.52	2.20	2.02	-0.18
64. Adjust or repair sewing machines.	1.86	2.30	0.44	1.66	1.58	-0.08
65. Plan and manage office activities and work projects.	2.68	3.30	0.62	3.24	2.80	-0.44
66. Quote prices for new garden equipment.	2.02	2.86	0.84	1.96	1.86	-0.10
67. Analyze numerical results from marketing surveys.	2.04	2.70	0.66	2.31	2.00	-0.31
68. Work out an agreement on the wording of a legal contract.	2.41	3.20	0.79	2.26	2.14	-0.12
69. Design a plan for constructing a new space vehicle.	2.78	3.26	0.48	3.44	2.86	-0.58

COMPARISON BETWEEN EXPERIMENTAL AND
CONTROL GROUPS ON OHIO CAREER INTEREST SURVEY

ACTIVITY	MEANS					
	EXPERIMENTAL GROUP (N=50)			CONTROL GROUP (N=50)		
	PRE	POST	GAIN	PRE	POST	GAIN
70. Create a dance routine to give a desired effect.	3.06	3.82	0.76	3.32	3.24	-0.08
71. Counsel families with very low incomes.	2.78	3.32	0.54	2.80	2.40	-0.40
72. Treat diseases of the nervous system.	2.08	3.00	0.92	2.42	2.10	-0.32
73. Store coats or luggage for visitors at an office building.	1.72	2.42	0.70	1.90	1.70	-0.20
74. Help handi-capped persons do exercises.	2.94	3.26	0.32	2.98	2.50	-0.48
75. Supervise workers on a dairy farm.	1.88	2.70	0.82	2.12	2.04	-0.08
76. Follow drawings to install electrical wires in walls.	2.41	2.71	0.30	2.54	2.12	-0.42
77. Transcribe and type dictated reports.	2.12	2.86	0.74	2.56	1.90	-0.66
78. Determine howe much food to stack in a grocery store.	2.44	3.30	0.86	2.68	2.12	-0.56
79. Use mathematics to help locate oil or water resources.	2.82	2.66	-0.16	3.08	2.18	-0.90

COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON OHIO CAREER INTEREST SURVEY

	ACTIVITY	MEANS EXPERIMENTAL GROUP (N=50) PRE	POST	GAIN	CONTROL GROUP (N=50) PRE	POST	GAIN
80.	Describe to a judge why a person is not guilty.	3.06	4.06	1.00	3.64	3.68	0.04
81.	Develop a process to change the characteristics of a metal.	2.12	2.59	0.47	2.24	1.96	-0.28
82.	Write a play to show the actions of different characters.	2.47	3.22	0.75	2.80	2.82	-0.02
83.	Help people understand and deal with their feelings.	2.92	3.71	0.79	3.18	2.78	-0.40
84.	Examine the eyes for diseases.	2.46	2.72	0.26	2.48	2.28	-0.20
85.	Serve coffee or other drimks at dinner.	1.92	2.62	0.70	1.90	1.86	-0.04
86.	Administer first aid to persons involved in an accident.	2.66	3.36	0.70	2.64	2.42	-0.22
87.	Raise chicken for eggs and meat.	1.46	2.14	0.68	1.64	1.48	-0.16
88.	Inspect and remove broken parts from an assembly line.	1.96	2.44	0.48	2.12	1.98	-0.14
89.	Trace folders that are missing from a file.	2.04	3.38	1.34	2.70	2.02	-0.68

COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON OHIO CAREER INTEREST SURVEY

ACTIVITY	MEANS					
	EXPERIMENTAL GROUP (N=50)			CONTROL GROUP (N=50)		
	PRE	POST	GAIN	PRE	POST	GAIN
90. Introduce new items to other sales agents.	2.34	3.08	0.74	2.96	2.42	-0.54
91. Compute the range of exchange for foreign money.	2.30	3.28	0.98	2.32	2.50	0.18
92. Conduct meetings with employees to talk about future plans.	2.86	3.18	0.32	2.98	2.40	-0.58
93. Prepare detailed plans for the construction of a building.	2.60	3.12	0.52	2.66	2.70	0.04
94. Create designs for photographic printing plates.	2.62	3.27	0.65	2.94	3.10	0.16
95. Explain to students how well they are doing in class.	2.72	3.50	0.78	3.16	2.76	-0.40
96. Perform surgey on the mouth.	1.78	2.14	0.36	1.90	1.66	-0.24
97. Collect tickets and show people to their seats in a theater.	2.42	2.84	0.42	2.32	1.88	-0.44
98. Set up oxygen tents to help people breathe.	2.76	3.10	0.34	3.02	2.64	-0.38
99. Spray plants to control insects.	2.02	2.56	0.54	2.38	2.08	-0.30

COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON OHIO CAREER INTEREST SURVEY

ACTIVITY		MEANS					
		EXPERIMENTAL GROUP (N=50)			CONTROL GROUP (N=50)		
		PRE	POST	GAIN	PRE	POST	GAIN
100.	Transport light loads by truck from one town to another.	2.26	2.82	0.56	2.24	2.02	-0.22
101.	Write down what witnesses say in a courtroom.	2.24	3.28	4.96	2.40	2.24	-0.16
102.	Offer special rates to attract buyers.	2.16	3.12	0.96	2.32	2.14	-0.18
103.	Analyze data from computer printouts.	2.66	2.98	0.32	2.58	2.02	-0.56
104.	Analyze an important local event for radio or television.	2.54	3.28	0.74	2.92	2.74	0.18
105.	Study the biological development of a certain animal.	2.10	2.94	0.84	2.76	2.24	-0.52
106.	Arrange and photograph window displays.	2.20	2.56	0.36	2.44	2.10	-0.34
107.	Teach people exercises that will help them stay in shape.	2.74	3.20	0.46	2.98	2.31	-0.67
108.	Recommend treatment for hearing difficulties.	2.82	2.96	0.14	2.86	2.24	-0.62
109.	Plan play activities for children.	3.16	3.68	0.52	3.36	2.98	-0.38

COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON OHIO CAREER INTEREST SURVEY

	ACTIVITY	MEANS EXPERIMENTAL GROUP (N=50) PRE	POST	GAIN	CONTROL GROUP (N=50) PRE	POST	GAIN
110.	Help a handicapped person to bathe.	2.50	2.20	-0.30	2.40	1.70	-0.70
111.	Pick fruits or vegetables.	1.92	2.94	1.02	2.38	2.02	-0.36
112.	Repair damaged mechanical parts.	2.24	2.62	0.38	2.31	2.14	-0.17
113.	Compose routine business letters.	2.42	3.02	0.60	2.42	2.10	-0.32
114.	Place a special sales order for a customer.	2.34	3.32	0.98	2.76	2.10	-0.66
115.	Prepare a financial statement for a business.	2.35	3.08	0.73	2.88	2.20	-0.68
116.	Speak publicly in support of a community program.	2.48	3.14	0.66	2.92	2.41	-0.51
117.	Conudct research to find the cause of a plant disease.	2.10	2.82	0.72	2.36	1.94	-0.42
118.	Design stage sets or backdrops for a play.	2.66	3.52	0.86	3.06	2.58	-0.48
119.	Help people recently released from prisons to adjust and find jobs.	2.38	2.82	0.44	2.84	2.30	-0.54

COMPARISON BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON OHIO CAREER INTEREST SURVEY

ACTIVITY	MEANS					
	EXPERIMENTAL GROUP (N=50)			CONTROL GROUP (N=50)		
	PRE	POST	GAIN	PRE	POST	GAIN
120. Diagnose and treat mental illnesses.	2.28	2.88	-0.60	2.56	2.20	-0.36
121. Wash and dry hair.	2.74	3.50	0.76	2.82	2.84	0.02
122. Provide food and care for children who have no home.	3.90	4.42	0.52	3.94	3.96	0.02
123. Raise animals for sale.	2.06	2.64	0.58	2.46	2.22	-0.24
124. Repair small household applainces.	2.30	2.86	0.56	2.48	2.10	-0.38
125. Rate the work of typists, clerks, or other office personnel.	2.48	3.26	0.78	2.56	2.06	-0.50
126. Supervise the sales activities of delivery workers.	2.56	2.88	0.32	2.72	2.32	-0.40
127. Calculate how much tax refund a person will get.	2.62	3.16	0.54	2.78	2.34	-0.44
128. Settle disputes in a court of law.	3.10	3.92	0.82	3.44	3.12	-0.32
129. Study the earth's gravity.	2.30	2.94	0.64	3.44	3.12	-0.32

COMPARISON BETWEEN EXPERIMENTAL AND
CONTROL GROUPS ON OHIO CAREER INTEREST SURVEY

ACTIVITY	MEANS					
	EXPERIMENTAL GROUP (N=50)			CONTROL GROUP (N=50)		
	PRE	POST	GAIN	PRE	POST	GAIN
130. Draw or paint pictures to explain an idea.	2.88	3.50	0.62	3.00	3.14	0.14
131. Help physically handicapped students adjust to a new school.	3.10	2.94	-0.16	2.82	2.42	-0.40
132. Examine and treat injuries of young children.	3.33	3.98	0.68	3.49	3.14	-0.35

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